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Schorstein Memorial Lecture

ON A RETROSPECT OF FORTY YEARS IN THE HISTORY OF TUBERCULOSIS.

Delivered at the London Hospital Medical College on Nov. 8th, 1922,

BY PERCY KIDD, M.D. OXF., F.R.C.P. LOND.,
CONSULTING PHYSICIAN TO THE LONDON HOSPITAL, THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON, AND TO KING EDWARD VII. SANATORIUM.

WHILE still an unqualified student of medicine at St. Bartholomew's Hospital, I had the good fortune to fall under the influence of a great physician, the late Dr. Samuel Gee. In his lectures on pathology Gee devoted much time to the subject of phthisis, about which at that time very discordant views were entertained. After a concise and masterly survey of the opinions of the past he summed up in a lucid manner the position as it appeared to him in the seventies of last century. In spite of a strong current of opposition in Germany, which carried off their feet many pathologists in this country and on the Continent, Gee never wavered in his adherence to the views of Laennec. My interest in the subject was first aroused by Gee's lectures, and my appointment on the staff of a chest hospital in 1880 gave me opportunities of study for which I can never be too grateful. This period, 1880–81, marks the parting of the ways in the history of tuberculosis, immediately preceding the discovery of the tubercle bacillus and the final demonstration of the truth of Laennec's doctrine of the unity of phthisis. My aim in this lecture is to give some account of the progress made in our knowledge of tuberculosis in these last eventful 40 years. It will conduce to the better understanding of this topic if I give a brief summary of the views that have prevailed at different times.

THE EARLIEST RECOGNITION OF CONSUMPTION.

Our earliest knowledge of consumption dates from the time of Hippocrates, who, in the fifth century B.C., held that phthisis was a suppuration and ulceration of the lungs. But his definition of phthisis was very comprehensive, including empyema, abscess of the lung, and gangrene. It is uncertain whether Hippocrates was familiar with tubercles, though he describes certain swellings in the lungs due to accumulations of mucus or bile which undergo suppuration. The causes of consumption are pneumonia which fails to resolve in a critical fashion, spitting of blood, empyema, and nasal secretions dropping down into the lung. So great was the authority of Hippocrates that these views prevailed with slight modifications for no less than 2000 years. Hippocrates makes no mention of consumption being contagious. But Aristotle seems to have held that it was so, and Galen expressly says "it is dangerous to live with consumptives and with those whose foul breath imparts a heavy odour to the rooms in which they lie."

THE SEVENTEENTH CENTURY.

We find no real advance in the knowledge of phthisis until the seventeenth century. A few years after William Harvey's great discoveries in the physiology of the circulation of the blood Franciscus Sylvius, in Holland, published his views on the nature of consumption. This Sylvius, born 1614, died 1672—who must be distinguished from Jacobus Sylvius, an earlier anatomist who flourished in the sixteenth century—was a Frenchman, born in Germany, and educated in France, Germany, and the Netherlands. He settled in Holland, and for the last 14 years of his life he was professor of medicine at Leyden. Though Sylvius followed Hippocrates in the main, regarding phthisis as an ulceration of the lungs, he made an important step forward when he asserted that tubercles are often found in the lung, and that tubercles softened and suppurated to form cavities. At the same time it must be remembered that tubercles in Sylvius's opinion were only enlarged glands which were supposed at that time to exist in the lungs and other parts, the enlargement being the result of accumulation of viscid humours or secretions in the aforesaid glands. The chief causes of consumption were peri-pneumonia passing into abscess, and spitting of blood.

Richard Morton, who lived in the latter part of the seventeenth century, embraced Sylvius's views concerning the glandular origin of tubercles, but made an important advance when he maintained that tubercles are to be found in all cases of consumption. Morton expressed a firm belief in the widespread occurrence of tubercle, and he insisted on the frequency with which healing takes place. Morton has been erroneously regarded as one of the chief exponents of the doctrine of "phthisis ab hæmoptoe." Hear what he says himself: "Where a spitting of blood has preceded, a consumption of the lungs is wont to follow," but, he adds, "the consumption does not seem to have its original so much from the breaking or gaping of a small vessel as from the inordinate and hectical state of the blood."

Thomas Willis, a contemporary of Sylvius and Morton, was the first to controvert the prevailing belief that phthisis invariably depended on ulceration of the lungs. For he declared that he had opened the dead bodies of men who had died of this disease in whom the lungs were free from any ulcer, and yet they were "set about with tubercles or sandy matter throughout."

THE EIGHTEENTH CENTURY.

Pierre Desault, a Frenchman, in the beginning of the eighteenth century wrote a valuable book on consumption, in which he closely followed Morton, accepting fully the tuberculous nature of the disease, and confirming the statement of Willis just quoted. He concluded that, as the symptoms of phthisis precede the establishment of ulceration, they are due to the tubercles. Desault compared tubercles of the lung with scrofula without asserting their identity. Both diseases are contagious in the stage of suppuration, and in both, as in venereal disease, Desault attributed contagion to the presence of worms, a remarkable foreshadowing of the parasitic theory of disease. Desault advocated the treatment of consumption by horse exercise, in this respect following Sydenham.

William Stark, who died in 1770 at the early age of 29, gave an excellent anatomical description of the tuberculous lung. Tubercles are situated in the cellular substance of the lungs, often clustered together, varying in size from the smallest granules to nodules half an inch in diameter. On examination with the microscope no vesicles, cells, or vessels can be seen even when the pulmonary artery and vein have been previously injected. He was evidently acquainted with miliary tubercles, though he does not give them any special name. The development of cavities from tubercles was also traced; and he gives what I believe is the first description of an aneurysm of the pulmonary artery in a cavity, which caused death from hæmorrhage.

Matthew Baillie towards the end of the eighteenth century gave so clear and complete a description of the pulmonary lesions of consumption that it could hardly be bettered to-day. In his description he includes tubercles of all sizes from a pin's head upwards, single or in clusters, also diffuse whitish deposits styled scrofulous, but believed by him to be of the same nature as tubercles, and abscesses or cavities due to suppurating tubercles. Tubercles are not enlarged glands, for no such glands exist in the lungs. "When tubercles are converted into abscesses phthisis pulmonalis is produced, one of the most destructive diseases in this island." It is interesting to trace in this last statement the influence of the Hippocratic tradition persisting in spite of the demon-

strations by Willis, Desault, and Stark that phthisis may occur without any suppuration in the lung. It is strange that Baillie should have been unaware of Stark's work, as the latter had been a student at the St. George's Hospital after previous study in Edinburgh and Glasgow, and his work was published in 1788 at a time when Baillie was physician to that hospital. The existence of tubercles in other organs as well as the lungs did not escape Baillie's observation, but he failed to see any connexion between them.

THE NINETEENTH CENTURY.

This brief review brings us to the beginning of the nineteenth century which marks a period of great activity and progress in the study of consumption. Among the first of the great workers of this time was Bayle, who in spite of some fanciful and erroneous classifications, left an imperishable mark on the history of this disease. The coexistence of tubercles in various organs attracted Bayle's special attention; he traced this dissemination to a common cause, a special disposition to the formation of tubercles or tuberculous diathesis, and he called the disease tuberculosis. This conception of a special diathesis exercised a profound influence on contemporary opinion for over 50 years, and still survives to this day in a modified form. Bayle was the first to use the term miliary tubercles and he boldly asserted that Baillie's scrofulous deposit was tuberculous.

Laennec, Virchow, Buhl, Villemin, Budd.

But a greater than Bayle was now at hand to throw light on the darkness pervading the whole subject. In 1819 Laennec, another great Frenchman, published his memorable work on "Mediate Auscultation and on Diseases of the Lungs and Heart," a work which revolutionised the theory of consumption and the clinical methods of examination of the lungs. Laennec boldly stated that all phthisis is tuberculous. Tubercle may take the form of discrete nodules or diffuse infiltrations. Softening of tubercle causes excavation and discharge of pus through the bronchi, forming cavities or ulcers of the lungs. All cheesy matter is tuberculous. Tubercles may arise in any organ and are connected with a special disposition or diathesis. Laennec regarded tubercle as a new formation unrelated to inflammation, and he confessed that the cause was unknown and was probably out of our reach. Scrofulous glands are tuberculous. Hæmoptysis is the result not the cause of phthisis. Laennec's chief claim to immortality rests on his development of mediate auscultation as applied to the diagnosis of disease of the lungs and heart, which brought order out of chaos and has exercised a far-reaching influence on the clinical study of disease. But if he had never discovered mediate auscultation his pathological study of consumption would stamp him as one of the great pioneers of medicine.

Laennec's views did not win universal assent at first, and some of his own countrymen—Andral, Broussais, and others—sought to controvert them. In Germany, Virchow taught that miliary tubercle was the only criterion of what is tuberculous. This great pathologist insisted that a caseous change is not characteristic of tubercle though very common in this disease, a similar change occurring in some new growths and in other conditions unrelated to tuberculosis. Virchow regarded the caseous matter of consumption as being due to regressive degenerative changes in low grade inflammatory products of a catarrhal pneumonia. The promulgation of these views of the greatest pathologist of his day let loose a flood of controversy, especially in Germany. Foremost among Virchow's supporters was Felix Niemeyer, professor of medicine at Tübingen, who applied his master's doctrines to the sphere of clinical medicine in the most thorough-going and uncompromising fashion. Consumption was declared to be the result of a non-specific catarrhal pneumonia, the inflammatory products undergoing a caseous, necrotic transformation. Tuberculosis might supervene on this caseous change, in which event caseous pneumonia became complicated by tuberculosis. One of Niemeyer's aphorisms declared that the greatest danger for the majority of consumptives is that they are apt to become tuberculous. Hæmoptysis is a common cause of phthisis, the extravasated blood setting up a catarrhal pneumonia and a subsequent caseous degeneration. Any form of pneumonia may terminate in consumption.

In 1857 Buhl made the important observation that disseminated miliary tuberculosis is always associated with the presence of a caseous focus in some part of the body, which is the centre from which infection starts. In 1865 J. A. Villemin, another of the illustrious band of French pathologists who have shed such light on the subject, announced his discovery that tuberculosis is an infective disease which can be conveyed to animals by means of tuberculous matter derived from man. Villemin considered that tuberculous sputum is the chief source of tuberculosis. But his experiments convinced him that rabbits inoculated with tuberculous material of bovine origin succumbed to a more virulent infection than those inoculated with human tubercle. It is not surprising that in the existing state of opinion Villemin's conclusions should be hotly contested. Attempts were soon made to show that tuberculosis could be induced in animals by the inoculation of non-tuberculous material. But further experiments under stricter conditions only served to demonstrate the truth of Villemin's conclusions.

In the same year in which Villemin's experiments were made known William Budd, from a study of the disease in its epidemiological and geographical relations, came to the conclusion that tuberculosis is a zymotic or infectious disease like typhoid fever. Nevertheless it was long before the doctrine of infection found general acceptance among clinical physicians. I may quote briefly from Watson's classical lectures on the Principles and Practice of Physic (fifth edition, 1871).

> "Now tubercles and scrofulous inflammation occur very frequently in the same individuals, and taking them together as merely different forms of one and the same disease . . . . they belong almost exclusively to certain classes of persons. We can tell beforehand that such and such persons are likely to become affected with scrofulous inflammation or with tubercles, and we say of those persons that they have the scrofulous diathesis."

Later on he argues that the dependence of tuberculous diseases upon a peculiar diathesis would seem to disprove the supposition that they are contagious. This statement fairly represents the views generally held in the seventies of the last century.

Robert Koch.

It came, therefore, more or less as a revelation to the medical world when in 1882 Robert Koch announced his discovery of the tubercle bacillus. It is unnecessary to describe his painstaking and brilliant researches, which established beyond all doubt the bacillary nature of tuberculosis. The establishment of this view completely revolutionised the attitude of the medical profession, both to diagnosis and treatment. Koch adopted Villemin's conclusion that the sputum of tuberculous patients is the chief source of tuberculosis, dried sputum becoming pulverised and inhaled into the lungs. It was not long before the identity of human and bovine tuberculosis came to be generally accepted. Prof. William Bulloch, after careful study of the literature, thinks that E. Klebs was the first to affirm this, the same opinion being embraced by Koch himself and most other workers. Indeed, to quote Prof. Bulloch's words:—

> "Between 1882 and 1900 very few seriously doubted that bovine and human tubercle were identical. Dissentient voices, however, were raised here and there, in this country by Sidney Martin, in America by Frothingham, Dinwiddie, and in particular by Theobald Smith in 1898."

In 1901, at the Tuberculosis Congress held in London, Koch made the startling pronouncement that human and bovine tuberculosis are not identical diseases. As the result of extensive experiments on young cattle inoculated in various ways with pure cultures of human tubercle bacilli or tuberculous sputum, he found that these animals remained free

from all symptoms of tuberculosis. When the animals were slaughtered careful anatomical investigation failed to reveal any trace of tuberculosis, except for the presence at the site of inoculation of small abscesses containing a few tubercle bacilli. Koch expressed himself as being convinced that human tuberculosis cannot be communicated to cattle, whereas when these animals are infected with bovine tubercle bacilli, severe generalised tuberculosis invariably follows. The question of the infection of man by bovine tubercle bacilli, for obvious reasons, could not be so satisfactorily settled, but Koch considered this to be so improbable that it was not necessary to recommend any precautions against it. Koch then reiterated his belief that the main source of human tuberculosis is the sputum of consumptive patients.

These statements, made by such a cautious and accurate observer, excited great interest in all countries and stimulated much experimental work. Two years later von Behring challenged Koch's conclusions and asserted that cow's milk is the main source of consumption. It is impossible within the limits of this lecture even to summarise the most important publications bearing on the points in dispute. But Prof. Bulloch's Horace Dobell lecture in 1910, on "The Problem of Pulmonary Tuberculosis Considered from the Standpoint of Infection," gives an admirable account of the subject, and should be consulted by everyone interested in the matter. In the portion of this lecture dealing with epidemiology, Prof. Bulloch draws attention to the significant fact that in Japan, as was first pointed out by Heymann, cow's milk was not drunk at all until recent times and yet, according to the universal experience of Japanese physicians, tuberculosis is extremely rife, quite as much as in European countries. It has recently been stated that the same is true of China. Opinions concerning the identity of bovine and human tubercle bacilli have differed considerably.

Some have thought that there are sufficiently well-marked cultural and morphological distinctions characterising the two types. Others have held that the differences are inconstant and unimportant. It seems now to be generally agreed that Koch was correct in his assertion that human and bovine tuberculosis are not the same disease. The morphological and cultural differences are not very great, and perhaps not quite constant, but that the two varieties exhibit pathogenic differences cannot be doubted. In all cases of pulmonary tuberculosis the tubercle bacillus is of the human type. In some instances of chronic tuberculosis of bones, joints, and lymphatic glands bovine bacilli have been discovered in the lesions. The view of Villemin and Koch that in pulmonary tuberculosis the bacillus enters the body through the air-passages was generally accepted at first. But Calmette and others subsequently attempted to show that the bacillus is swallowed with food, passing from the alimentary canal to the abdominal lymphatic glands, and thence reaching the lymphatics of the thorax and infecting the lungs. Prof. Bulloch, reviewing Calmette's experiments and further work dealing with the question of entry, sums up in favour of the old view of Villemin and Koch in these words:—

> "The arguments in favour of this being the great dissemination of sputum from multitudes of consumptives, the early anatomical lesions in the lungs and the fact, widely confirmed, that doses of tubercle bacilli which, when inhaled, cause pulmonary tuberculosis, produce no effect when ingested."

TUBERCULIN.

In the course of his researches Koch discovered that tuberculous animals are very sensitive to extracts of the tubercle bacillus. Tuberculin, a filtered glycerine extract of cultures grown in broth, causes both local and constitutional effects when injected into tuberculous animals. The result is a febrile illness combined with inflammatory and necrotic changes in tuberculous foci. This reaction is confined to tuberculous animals, and therefore possesses a specific value as a diagnostic test. Koch had found that a tuberculous animal reacts to the subcutaneous injection of tubercle bacilli in a different way from a healthy animal. In the tuberculous animal ulceration occurs at the site of inoculation in a few days, but healing subsequently takes place without general infection. In a healthy animal the wound heals at once, but in about a fortnight a hard nodule forms, rapidly ulcerates, and is followed by generalised tuberculosis. It was evident that in the first case the infected animal had developed a considerable degree of resistance to tuberculosis which the healthy animal did not exhibit. A consideration of these facts led Koch to employ tuberculin for purposes of diagnosis and treatment. The results of experiments on cattle showed that the tuberculin test is a trustworthy method of diagnosis. For the animal could be slaughtered and the presence or absence of tuberculosis could be accurately determined. In the case of man the question could not be so simply settled. Patients with clinical signs of tuberculosis reacted to tuberculin in most cases in a very definite manner, by fever, malaise, and changes in focal signs.

In those suffering from lupus anatomical changes could be directly observed. It was found, however, that in some instances of severe progressive tuberculosis no reaction to tuberculin occurred. This failure to react was attributed to loss of the normal powers of resistance on the part of the organism; and was found to possess an ominous prognostic significance. A negative reaction to tuberculin was also observed in some tuberculous patients when suffering from influenza, typhoid fever, measles, and other specific fevers, also during pregnancy and the puerperium. Where a patient reacted to tuberculin there was no means of deciding whether the disease was active, quiescent, or arrested, but at first the diagnostic significance of a positive reaction was unquestioned. Objections, however, were raised to the specific diagnostic value of tuberculin, some observers maintaining that subcutaneous injections of milk and other proteoses evoked similar constitutional and focal reactions. The fact that many apparently healthy persons reacted, and the more general recognition of the large extent to which otherwise healthy people are the subjects of arrested tuberculous lesions, led clinicians to discount the value of tuberculin as a clinical test. Von Pirquet's cutaneous tuberculin test and Wolff-Eisner and Calmette's ophthalmic test avoided the severe constitutional symptoms often excited by Koch's original subcutaneous method. Both methods were extensively employed for diagnostic purposes, but the severe conjunctivitis sometimes set up by the latter has led to its virtual abandonment. The results of the cutaneous test agreed very closely with those obtained by Koch's original method. In view of the widespread existence, in the community, of arrested and quiescent tuberculous lesions as shown by the results of post-mortem examinations, it is not surprising that positive reactions to tuberculin greatly outnumber the negative. Two successive cutaneous tests have been found to yield a much higher proportion of positive results than a single test.

Peters found that in 965 cases without clinical signs of tuberculosis whose ages ranged from 6 years upwards, 72·2 per cent. gave a positive reaction. In children under 2 years of age a positive reaction has a definite value, but after the age of 3 the test possesses less importance. C. Hart considers that the high percentage of positive reactions in otherwise healthy persons can be explained by Orth's view that a reaction to tuberculin may result from the mere presence of tubercle bacilli in the body without any anatomical lesion—in other words, bacillary invasion does not necessarily indicate bacillary infection. Hart's conclusion was based on the result of 573 autopsies in a field hospital in Germany in which, excluding a few known cases of pulmonary tuberculosis, he found recent or obsolete tuberculous lesions in only 34 per cent. From these facts he thinks that the incidence of tuberculosis among the general population does not exceed 50 per cent. as against the much higher figures of Naegeli and others.

POSITION OF PRIMARY TUBERCULOUS LESIONS.

The remarkable proclivity of the apex of the upper lobe of the lung to tuberculosis has long been recognised, and from the time of Laennec an appreciation of this fact has proved of the greatest value in clinical diagnosis. But cases were occasionally met with in which physical signs of disease, proved to be tuberculous by the presence of tubercle bacilli in the sputum, were confined to some other part of the lung, mostly the lower lobe. This led some clinicians to conclude that tuberculosis had started in the lower lobe, and they spoke of primary basic phthisis. But in several instances of this kind on making an autopsy I have found old deeply-seated tuberculous lesions, even small cavities, in the upper lobe, which had yielded no physical signs during life, the disease of the lower lobe, though more extensive, being evidently of more recent origin. In such cases it is almost the rule to find pronounced emphysema in the superficial parts of the upper lobe which accounts for the absence of physical signs at the apex.

Most authors agree that in children pulmonary tuberculosis not infrequently starts in the central or root districts of the lung. Here the disease seems to originate in the tracheo-bronchial glands, and to invade the lung by direct extension following the fan-shaped distribution of the bronchi. Suppuration and ulceration of these caseating glands may cause perforation of the large air-tubes, pulmonary artery or vein, with dire consequences. Reference may here be made to an important paper by Ghon, published ten years ago, in which he adopts the view, first stated by Parrot in 1876 and further developed by G. Kuss in 1898, that in children the primary intrathoracic lesion is almost invariably situated in the lung, the tracheo-bronchial glands being constantly affected at a later date. As the result of 184 necropsies on children, Ghon formulates his opinion as follows: (1) The primary tuberculous lesion is found in the lung in at least 90 per cent. of all cases; (2) the pulmonary lesion is almost always associated with a secondary tuberculosis of the tracheo-bronchial glands. The glandular disease may be much more extensive than the pulmonary, but the latter can nearly always be shown to be of older date.

The primary tuberculous nodule in the lung may be extremely small and may require repeated search for its detection. In a small proportion of the cases examined, 7·6 per cent. tuberculous lesions of the glands existed without any discoverable focus in the lungs. But the possibility of an undiscovered minute tubercle in the lung cannot be altogether excluded, and in some of these cases pleural adhesions were found, pointing to a previous pulmonary lesion. Ghon states that tuberculous nodules in the lung are not very uncommon in infants under one year of age; the youngest amongst his cases was two months old. Endogenous reinfection of the lung in arrested or quiescent cases may be brought about by a passage of tubercle bacilli from a tuberculous bronchial gland through the thoracic duct and innominate vein into the lung. In a recent paper Ghon and Pototschnig[1] quote the results of numerous autopsies in adults in which endogenous reinfection of the lung occurred from tuberculous bronchial glands secondarily affected from an old primary focus in the lung tissue, which generally dated from childhood. They consider that most healed or latent cases may be traced to infection in early life.

DIAGNOSIS.

When X-ray examination was applied to the diagnosis of pulmonary diseases, in virtually every case radiating shadows were seen passing from the root outwards along the course of the bronchi and blood-vessels. In addition, patchy shadows appeared in many instances in the neighbourhood of the root of the lungs. Post-mortem examination in some of these cases has shown that the patchy shadows represented calcareous deposits in the bronchial glands and lung tissue.

[1] Beitr. z. klin. d. Tuberk., 1919, 41.

Some radiologists, Dr. A. C. Jordan and others, regard these fan-shaped shadows as indicating healed tuberculous lesions. Dr. Jordan asserts that in every case tuberculous invasion takes place from the large bronchi, thence extending outwards in the peri-bronchial sheath, the disease reaching the apex of the upper lobe by way of the air-tubes. In other words, tuberculosis of the apex is not primarily apical but secondary to invasion from the root. Dr. Jordan claims to have shown that in at least 40 per cent. of cases of phthisis the disease commences as a definite peri-bronchial mottling. In about 20 per cent. the infection travels up along the main ascending bronchiole to the apex at an early stage, and the disease progresses there while the track of infection from the root heals, leaving an excess of fibrous tissue around the ascending bronchiole. These are the purely apical cases of phthisis. Some cases are cited where microscopical examination of the root districts of lungs which had given the fan-shaped peri-bronchial shadows during life revealed evidence of a tuberculous structure. From this it is argued that all these peri-bronchial shadows represent healed tuberculous lesions, an assumption by no means justified. X-ray examination is a valuable help in the diagnosis of pulmonary diseases, but it cannot reveal the earliest stage in the formation of a tubercle, and it is doubtful whether it can enable us to differentiate between active and quiescent disease. It is only fair to state, however, that some radiologists hold that a woolly cotton-ball shadow seen with the fluorescent screen indicates an active process. But while we recognise the valuable confirmatory evidence furnished by the radiologist, we must still rely for early diagnosis and also for prognosis on the well-tried methods of physical examination combined with a careful consideration of all the patients' symptoms.

The foundations of the physical diagnosis of diseases of the lungs were so well and truly laid by Laennec that subsequent workers have added little of first-rate importance to our knowledge in this department. The discovery of the tubercle bacillus in the sputum of phthisical patients has proved of immense value and has given a precision to the diagnosis of pulmonary affections which was lacking before. Cases where bacilli are found in the sputum have been conveniently styled open tuberculosis, those in which the results of examination are negative, closed tuberculosis. But success in treatment largely depends on the recognition of disease before bacilli are discharged from the lung. In these circumstances, it is true, physical diagnosis often fails us, though the advantage of expert examination is not always adequately appreciated. It appears to me that less attention is paid in the present day to the niceties of physical diagnosis, the younger generation of medical practitioners flying off at once to the bacteriological or clinical laboratory for help before exhausting the possibilities of the classical methods bequeathed to us by Laennec and other old masters. It was hoped that the application of the complement-fixation test would fill the gap in our means of diagnosis, but opinion is still divided concerning its merits.

TREATMENT.

The demonstration of the infective nature of tuberculosis prompted the indiscriminate use of countless antiseptic remedies administered by ingestion, inhalation, subcutaneous, intravenous, and rectal injection. Of all of these, with the exception of the last, perhaps the most futile was the method of inhalation, its advocates assuming that antiseptics inhaled into the upper air-passages could reach the solid tuberculous masses in the lungs. Reviewing the advances made in the treatment of pulmonary tuberculosis in the last 40 years, three methods alone stand out as new departures that have attained to some measure of success. These are, in chronological order: the sanatorium method, tuberculin, and the induction of pneumothorax.

Tuberculin.

First, with regard to tuberculin: In 1890 Koch introduced the subcutaneous injection of tuberculin as a specific immunising agent against tuberculosis. It is not surprising that the new method, ushered in with such excellent credentials, excited the liveliest interest in all civilised countries, and the hope was freely expressed that now at last one of the greatest scourges of the human race would be brought under control. The commotion aroused in the medical world was incredible. Nothing like it had been seen since the South Sea Bubble in 1720. A veritable stampede to Berlin ensued, doctors and patients flocking in frantic haste from all quarters of the globe to the new Pool of Siloam. It is much to be regretted that in the early days the treatment was shrouded in an atmosphere of mystery, the exact nature of the remedy being withheld. Doctors in all countries were naturally anxious to test the new agent for themselves. But at first only a limited quantity of tuberculin was available for foreign use, and this was entrusted to a favoured few. Thus in the whole of Great Britain only one physician and one surgeon were thought capable of administering the potent fluid. Observers in all countries had no difficulty in convincing themselves that tuberculin had a powerful effect on tuberculous subjects. The local results were strikingly manifested in cases of lupus where the hyperæmia and swelling of the affected skin could be watched from day to day. Physical examination of the lungs in pulmonary cases pointed to similar effects on the lungs. But when in accordance with Koch's instructions the dose of tuberculin was gradually increased, constitutional symptoms of a severe nature were frequently excited, with fatal results in many instances. In very few cases was any permanent improvement secured.

In a comparatively short time the failure of tuberculin treatment had to be reluctantly admitted and Koch's method of administration was virtually abandoned, though a faithful few never ceased to advocate and practise it. After a time many workers in Germany and in this country, Sir A. E. Wright and others, began to use tuberculin on a different principle.

Koch taught that tuberculin should be given in increasing doses until a high degree of tolerance was attained. This was assumed to indicate that all active tuberculous foci had been destroyed. The new school employed minute doses continued over long periods of time, but so gradually increased as to avoid all constitutional reaction. In Sir A. E. Wright's case the results were controlled by observations on the opsonic index of the leucocytes of the patient's blood, a method devised by himself. This plan of administering tuberculin was given a prolonged trial. But in the case of pulmonary tuberculosis the results were disappointing. Better results have attended its use in cases of chronic tuberculosis of lymphatic glands, bones, and joints. Various other preparations of tuberculin made from human, bovine, and other sources, and bacillary emulsions consisting of dried triturated bacilli have been tried without success. Attempts were made by other workers to produce a passive immunity in tuberculous subjects by means of serums derived from actively immunised animals, but with no better results. The toxin of tuberculosis is an endotoxin and is bound up with the cell body of the bacillus. The object in view is the production of anti-bodies in the infected organism. But seeing that Nature herself is already hard at work manufacturing antibodies it is very difficult to define the stages at which the artificial stimulation of antibody formation can be usefully undertaken. It is easy to do more harm than good by injudicious attempts to supplement the natural forces of reaction to bacillary invasion. It must be confessed that the failure of tuberculin has been a great disappointment.

There seemed to be little hope of the discovery of any drug that could destroy the bacillus without damaging the delicate tissue cells. Add to that the difficulty of any drug reaching the microbes securely entrenched in masses of necrotic tissue and shut off from vascular and lymphatic connexion, and one can picture to oneself the high hopes raised by Koch's memorable proclamation of the powers of tuberculin. But in spite of the meagre results of tuberculin treatment it is probable that Koch's researches indicate the lines along which ultimately success may be achieved. It has been shown that a tuberculous patient may acquire a high degree of tolerance to tuberculin without any corresponding improvement in his malady; in other words, tuberculin tolerance does not necessarily imply arrest of the tuberculous process, as Koch thought.

The Sanatorium.

The sanatorium method, sometimes erroneously described as the open-air cure, constitutes a memorable advance in treatment. The credit of this discovery is usually assigned to Brehmer, and to Dettweiler, who had carried out a somewhat similar method previously. But the sanatorium treatment as we know it to-day is mainly based on the lines laid down by the late Otto Walther of Nordrach. At the same time it is only fair to remember that the general idea of treating consumptives by outdoor exercise, abundance of fresh air, and generous feeding was first advocated and carried out in this country by George Bodington of Sutton Coldfield in 1840. But the time was not ripe for so revolutionary a departure from the time-honoured methods of coddling combined with antiphlogistics, and Bodington's utterances fell on deaf ears. We can imagine in what light his statements appeared to the incredulous of his time. The consumptive patient was afflicted with a disease universally regarded as hereditary and incurable. The sufferer was to be protected as far as possible from cold and draughts, sent to a warm climate if means permitted, kept on a low diet and treated vigorously with antimony and other depressing antiphlogistic remedies. If one reads Laennec's description of the course of his own cases, the gloomy prognosis then generally given is seen to have been only too well founded. Laennec, after a discussion of the methods of treatment then in vogue concludes that "although the cure of tubercular phthisis is possible to nature it is certainly not yet so to medicine."

The essentials of sanatorium treatment are: Abundance of fresh air, a generous diet, rest and exercise under the personal supervision of a skilled physician. Judicious daily superintendence is of the utmost importance, and the personal factor plays a very vital part in the relations between physician and patient. As usual with all methods of treatment of consumption, extravagant hopes were raised which before long were seen to be unjustified. As with tuberculin, so with the sanatorium, the most advanced and unfavourable cases were the most anxious to undergo the treatment. Disappointment, though sometimes long deferred, in such circumstances was inevitable. Some modifications of the original sanatorium routine have been found to be necessary. The excessive feeding insisted upon by Walther and many of his disciples has proved to be unwarranted and even harmful in many cases. The stereotyped prescription of milk in large quantities to patients consuming an adequate mixed diet is gradually ceasing to be the fetish that has ruled the medical world so long. I have known many patients suffering from quiescent disease who have continued heroically to swallow their three pints of milk daily in spite of failing appetite and dyspeptic symptoms, but have recovered appetite and lost their dyspepsia as soon as milk was interdicted or reduced in quantity. Graduated exercise on the lines initiated by Dr. Marcus Paterson at the Frimley Sanatorium has proved very useful in suitable cases. Dr. Paterson's explanation of the good effects of exercise is that it provokes auto-inoculation and favours the acquisition of immunity. We have recently seen a reaction against this practice, but in skilful hands it possesses a distinct value.

In order that permanent benefit may accrue from sanatorium treatment, the after-care of patients, more

especially those of the working classes, is indispensable. The lack of this is one of the causes of the many failures that occur. It is very desirable that a system of after-care should be linked up with the various sanatoriums, but here the economic factor is a real difficulty. Tuberculous colonies in small numbers have been founded to provide work under suitable hygienic conditions for working-class patients, many of whom have been discharged from the sanatorium. The results of these comparatively limited experiments have been fairly successful, but such colonies can only touch the fringe of the vast tuberculosis problem. At first too much was claimed for the sanatorium treatment, and when its failure to cope with the majority of the cases admitted was recognised a period of detraction set in. Sanatorium officers attempted to explain their failures on the ground that the majority of the patients sent to them were not early cases. This is quite true, but the difficulty of finding really early cases is very great. In the first place, the diagnosis of disease in its earliest stages is at present generally beyond our powers. Careful attention to general symptoms, such as malaise, weakness, lassitude, combined with expert physical and radioscopic examination, is sometimes successful in detecting the presence of early tuberculosis. But very few people with such slight symptoms think it necessary to submit themselves to examination. Others put off consultation from fear of learning unpalatable truths. Consequently the cases commonly labelled early by their medical advisers are not early at all. How many patients has one seen diagnosed as subjects of early disease on the insufficient ground that the physical signs were limited in extent? Yet in most of these cases a careful attention to the history has elicited indubitable evidence of the previous existence of symptoms extending over months or even years. The various classifications of pulmonary tuberculosis have done much harm; apart from their inadequacy, they have fostered a false estimate of the value of their application to individual cases.

To return to the subject of sanatorium treatment. I wish to proclaim my conviction that this method has given better results than any other so far. In the well-to-do classes one has seen many instances of arrest, lasting over years, the patients being able to live useful and sometimes laborious lives. In the less successful cases life has been prolonged for five to ten years, often with a fair measure of health. One of the great merits of sanatorium life consists in its educative effects, not only on the inmate himself, but also indirectly on his family and acquaintances. The public generally are undoubtedly more alive now to the importance of fresh air, cleanliness in the house, disposal of sputum, and general hygienic measures. In my opinion some of the credit of this improved state of opinion must be assigned to the influence of the sanatorium movement. The complexion of the average case of consumption seems to me to have changed in the last 40 years. Rapidly progressive cases are now less frequently met with in my experience, whether in private or in chest hospitals. As an adjunct to the hygienic measures of the sanatorium brief mention may be made of heliotherapy. The beneficial results of sunlight in tuberculous disease have been clearly demonstrated in chronic cases, more particularly where the serous membranes are chiefly concerned. Unfortunately, our climate during many months of the year does not provide the needed amount of sunshine. But at these times, for those who can afford it, the high Alpine stations of Switzerland are available and offer special facilities. Careful supervision of the treatment is essential if the ill-effects of over-exposure to the sun's rays are to be avoided.

Induction of Pneumothorax.

This method was first employed in recent times by Forlanini in cases of severe progressive pulmonary tuberculosis, in order to produce collapse of the lung and thereby to secure immobilisation and rest of the diseased organ. The selection of suitable cases is not an easy matter. Originally the operation was limited to cases of one-sided disease or cases where disease was nearly confined to one side. The absence of general pleural adhesions is essential for the induction of pneumothorax, but, unfortunately, it is difficult to exclude this condition. The tendency in the last few years has been towards a less rigid limitation of the cases submitted to the operation. There is no doubt that in many cases, apparently with hopeless prospects, great relief has been obtained, as shown by a diminution or arrest of cough and expectoration, a fall of temperature, and a sense of well-being. Some patients have been enabled to return to work. But the necessity of periodical refilling of the pleural cavity with nitrogen gas extending over a period of three, four, or five years, and the difficulty of excluding the presence of adhesions, are serious obstacles to the wide application of this treatment. As a palliative measure in otherwise hopeless cases it undoubtedly has its uses. Various degrees of success have been reported in something like half the cases operated on.

Quite lately, in a report of the Tuberculosis Committee of the Medical Research Council by Dr. L. S. T. Burrell and Dr. A. Salusbury MacNalty, the results of the pneumothorax treatment are reviewed. A summary of this report is given in recent numbers of the *British Medical Journal* and *The Lancet*, in which it is stated that the method is not a new one, as has been pointed out by Dr. A. K. Krause. The evidence of this is said to be found in a passage in Hippocrates. In Littré's text, second book "On Diseases" (Section 59), it is written:—

> "If this affection results from a wound or as sometimes happens from an incision for empyema, one should attach a pipe to a bladder, fill the bladder with air, and send air into the interior of the chest."

Dr. Krause draws the conclusion that this operation was practised by Hippocrates and his school as a therapeutic measure. I can find no warrant in the text for this conclusion. In the section referred to Hippocrates is dealing with cases of false membranes in the pleura indicated by friction sounds. It is more probable that the object of insufflating air into the pleura was to assist in evacuating pus.

The conclusions drawn in the above reports are highly favourable to the operation in selected cases. For patients with a good power of resistance the operation is not indicated, as such cases do well with sanatorium or other treatment. On the other hand, in cases of low resisting power and progressive disease little benefit can be expected. But in an intermediate class, where the disease is subacute and the healthier lung is not too much affected, pneumothorax gives the best results. In another part of the report, in answer to a set of questions propounded to them, 16 physicians who have dealt with over 14,000 cases since 1910 give their experience of the operation: "A favourable answer is returned by all with no uncertain voice." One enthusiastic advocate of the treatment considers that no case is too early and that an early case does not necessarily imply that the patient has a good resistance, and will therefore respond satisfactorily to ordinary hygienic methods. But the bulk of the answers are more cautious, and the general tendency is to limit the treatment to more advanced cases in which other measures have failed. If further experience should justify the sanguine opinions here expressed, the induction of pneumothorax will rank among the greatest advances in the treatment of pulmonary tuberculosis. Thoracoplasty has been widely practised in Germany, Norway, and Denmark for the same purpose with a considerable degree of success, but in this country little has been done in this direction as yet.

RETROSPECT AND PROSPECT.

If we cast our eyes back over the period which began with the discovery of the tubercle bacillus we cannot fail to recognise that great progress has been made in the spheres of ætiology and diagnosis. And

seeing that the tuberculosis mortality has fallen considerably in this time we might be tempted to attribute this to a more intimate knowledge of the disease and to a corresponding improvement in treatment. But it has been clearly shown that the mortality had begun to fall before the general recognition of the infective nature of tuberculosis could have had any influence on prevention or treatment. Progress in general hygiene and an improved standard of living have, no doubt, contributed to the reduction of the tuberculosis death-rate. The wide distribution of the tubercle bacillus in all civilised communities renders it impossible to prevent the entrance of the microbe into the human body, though the systematic adoption of measures calculated to reduce the discharge of tuberculous sputum must ultimately lead to a diminution in the supply of the tubercle bacillus. This object can best be secured by the segregation of advanced cases of pulmonary tuberculosis, which involves the provision of adequate hospital accommodation. This is one of the most urgent needs of the day, but, unfortunately, the present state of the country's finances precludes all hope of obtaining this in the near future. In existing circumstances there seems little reason to expect that the bacillus can be altogether eliminated. Must we then despair and say, as Falstaff said of his purse, "I can get no remedy against this consumption"? Surely not. More important even than restriction of the supply of the tubercle bacillus is the treatment of the soil on which the seed falls.

If it be true, as we have good reason for believing, that nearly everyone has received a dose of the bacillus in childhood or at some later period, and that a large proportion of the population has become partially immunised, we may hope that further research will discover means for increasing the partial immunity already acquired. A side-light is thrown on this question by the experience of the recent war. During its later stages, and immediately afterwards, the mortality and incidence of tuberculosis in certain continental countries increased greatly. But with the return of peace and an improved supply of food, the death-rate from tuberculosis began to fall again. The key to the prevention of tuberculosis is probably to be sought in the discovery of the biochemical conditions which favour immunity. My belief is that tuberculosis can never be completely exterminated, but in the future much will be done to bring it under better control.

Presidential Address

ON THE RELATION OF

CALCIFIED ABDOMINAL GLANDS TO URINARY SURGERY.

Delivered at the Section of Urology of the Royal Society of Medicine on Oct. 19th, 1922.

BY SIR JOHN THOMSON WALKER,
M.B. EDIN., F.R.C.S. ENG.

(WITH ILLUSTRATIVE PLATES.)

IN the last few years I have examined 42 cases of urinary disease, or of supposed urinary disease, where calcified abdominal glands were found and in which certain questions of ætiology, of diagnosis, and of treatment arose. There are doubtless many angles from which the subject of calcified abdominal glands may be viewed, but a rapid review of the literature of the last twenty years does not reveal any widespread interest in the subject. We have here the final stage of tuberculous glands in the mesentery, tabes mesenterica, a disease common in children, and the literature refers almost exclusively to the active stage of the disease as it occurs in early life.

In children, Still [1] says, the condition is very common, but the clinical diagnosis of tabes mesenterica is much less frequent. In 254 necropsies on tuberculous children at the Children's Hospital, Great Ormond-street, tuberculous mesenteric glands were present in 151, or 59 per cent., while clinically only 46 cases were diagnosed in 6000 or 7000 patients at the Evelina Hospital. Corner [2] and Branson [3] in 1905 and Carson [4] in 1918 have published important articles on the clinical aspect of tabes mesenterica. Fordyce [5] refers to it in a more general article and Lund [6] has drawn attention to it in America. Sims Woodhead,[7] Coleman,[8] and MacFadyen and MacConkey [9] have published post-mortem statistics.

From these authors I gather that tuberculous infection of the mesenteric glands is common in children; that it gives rise to symptoms seldom sufficiently characteristic to permit of a diagnosis unless a palpable mass is present in the abdomen, or unless, as happens in the late stage, one or more of the glands become caseous and throw a shadow with the X rays; that at this period of life tuberculosis of these glands, next to the bronchial glands, is the most frequent cause of disseminated tuberculosis; that some observers advocate operation upon these glands, but that, owing to the difficulties of diagnosis, operation is only performed if a palpable swelling is present; and that the results of operation at this stage have been good in the recorded cases.

We will now pass over a period of twenty years or more—the average age in my 42 cases was 34 years—and come to the subject I have set out to discuss—namely, calcified glands in their relation to urinary surgery. Here we are dealing with the adult; at least, the cases that I have to bring before you were, with a few exceptions, adults.

ANATOMY AND PATHOLOGY.

Before discussing the clinical side of calcified abdominal glands from the urological standpoint, I will refer briefly to the anatomical and pathological aspects of the subject. Clinical investigation showed that one of two groups of glands were affected in the majority of the cases under my care. One, the more common, lying at the lower part of the abdomen on the right side (25 in 42 cases) and the other less common, towards the upper part of the abdomen on the left side (10 in 42). There were five cases where the shadows lay in the mid-line over the sacrum, and experience showed that these belonged to the same group as the shadows low down on the right side, bringing the total in this group up to 32 in 42 cases. In one case shadows were present on both right and left sides.

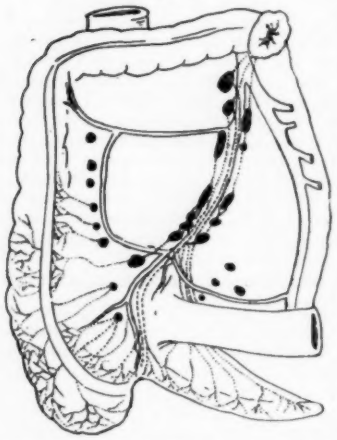
We must refer to the anatomy of the abdominal lymphatics for information in regard to these groups of glands. Jamieson and Dobson,[10] in their valuable research on the abdominal lymphatics, show that the lymphatic vessels of the intestine, from the duodenum to the splenic flexure of the colon, accompany the branches of the superior mesenteric artery and terminate in the large glands which lie around the artery at the root of the mesentery. (Fig. I.) The lymphatics may be divided into three groups: (1) mesenteric, lying between the layers of the mesentery draining the small intestine; (2) ileocolic, lying behind the parietal peritoneum in the space bounded by the attachment of the mesentery below and to the left, the transverse mesocolon above and the ascending colon to the right; and (3) mesocolic, lying between the layers of the transverse mesocolon.

Following the branching of the superior mesenteric artery, five sub-groups are found belonging to the ileocolic group—namely, (1) anterior and (2) posterior ileocolic, (3) appendicular, (4) ileal, (5) right colic. In my cases the calcified glands lying in the right lower abdomen and those over the upper part of the sacrum (72·5 per cent.) belonged to the anterior and posterior ileocolic sub-groups (Fig. IV.), while those on the left side of the abdomen belonged to the

mesenteric group (23·8 per cent.). (Fig. III.) These ileocolic sub-groups receive lymphatic vessels from the terminal portion of the ileum, from the appendix, and from the cæcum, while the mesenteric group drain the small intestine.

In the cases on which I operated it was invariably noted that there was no change in the adjacent bowel, which formed the lymphatic field. In six cases the appendix had been removed—twice during childhood and three times in adult life. In two of the adult cases the appendix was certainly normal and the operation had been performed for pain on a mistaken diagnosis. In the remaining case I removed the appendix myself at the operation on the calcified glands. In this case the appendix was fibrous and the lumen had been obliterated, a condition noted also by Corner in a similar case. In no case was there any adhesion of the peritoneum in the neighbourhood of the gland or elsewhere, and there was no sign of tubercle on the peritoneal surface. Except in three cases, clinical examination in these cases showed no focus of tubercle elsewhere in the body.

FIG. I.



Abdominal lymphatics (Jamieson and Dobson). Superior mesenteric artery, with large lymph glands and iliocolic group of glands.

These facts are in accord with the observations of others on tabes mesenterica in children and with experimental evidence by Sidney Martin,[11] which goes to prove that this form of tuberculous infection of the mesenteric glands is usually an isolated tuberculous infection and results from infection from the bowel. In such cases no trace of tuberculous ulceration is discovered in the bowel and the bacilli appear to pass through the wall without producing any gross change. The fibrosis of the appendix already noted indicates bygone disease, probably septic. Tuberculous peritonitis has no direct connexion with this form of glandular infection. In three cases tuberculosis was present elsewhere in the body—i.e., in the kidney and bladder. Two of the three were boys of 13 and 14 years respectively, and one an adult male of 41 years. In the adult the tuberculous infection was widespread, for he had also suffered from tuberculosis of the lungs and larynx and there was tuberculous disease of one elbow.

These cases raise the important point of the relation between tuberculous abdominal glands and renal tuberculosis. Many years ago Brongersma[12] pointed out that tuberculous mediastinal glands were the chief source of infection in the so-called primary renal tuberculosis. There can be little doubt that tabes mesenterica may, in some cases, be the focus of tubercle from which the kidney is infected, for the condition is an acknowledged source of disseminated tuberculosis. This is more likely to be the case in the tabes mesenterica of children than in the calcified glands of the adult. I do not think, however, that even in children this can be a very frequent source of renal infection. Tuberculous infection of the mesenteric glands is a very common condition at this age, but tuberculous disease of the urinary tract does not occur so frequently in children as in adults. It may be noted that the only adult in 40 cases, where the calcareous mesenteric glands and urinary tubercle coexisted, suffered from tuberculosis of the lungs also. So that presumably tuberculous mediastinal glands were likewise present. In the calcified state the tuberculous process is obsolete, and in the cases on which I operated I did not find any tuberculous glands apart from the calcareous glands which I removed. There does not, therefore, seem to me to be any danger of infection of other parts of the body by tubercle bacilli.

I shall describe a case of calcified abdominal glands and then discuss the symptoms.

History.—A female, unmarried, aged 22, had suffered from pain in the left side of the abdomen about five years ago, the pain coming on when she was tired. After a few months it disappeared and commenced again suddenly three years ago. As a child she had been subject to what were called "bilious attacks." Ten years ago she had abdominal pain and the appendix was removed. During the last three years she had been subject to attacks of severe pain at intervals of about a week, and during the last two months the pain had been constant with attacks of more severe pain once or twice a day. The attack of pain commenced suddenly usually in the morning and lasted about three hours. The pain was very severe and was situated in the left side of the abdomen and left loin. It ceased suddenly and left no aching or tenderness. The pain sometimes came on after stooping but often without ascertainable cause. The condition of the bowel did not affect it. It was relieved by heat and lying still. On only two occasions had there been vomiting. There had never been any change in the quantity of the urine and on examination it had always been normal. Menstruation had never been fully established.

Condition on examination.—The patient was well-nourished. There was no tenderness or anything abnormal on palpation of the abdomen. The urine was normal. Examination with the X rays showed in the antero-posterior view a heavy, somewhat irregular shadow in the region of the upper pole of the kidney or suprarenal capsule, alongside the body of the first lumbar vertebra. In the lateral view the same heavy shadow was found in front of the bodies of the third and fourth lumbar vertebræ. A bismuth meal showed delay in the large intestine.

Operation.—I removed two calcified glands through a paramedian incision to the left of the umbilicus. They lay in the mesentery near the upper end of its attachment and about two inches from the bowel margin. The uterus and ovaries were small and undeveloped. The pain disappeared after the operation and has not reappeared.

Calcified abdominal glands come into relation with urinary surgery in diagnosis and in treatment, and I propose to discuss them under these two headings.

CLINICAL SYMPTOMS AND DIAGNOSIS.

It is a noticeable feature that in only one adult case could a clear history of childish illness affecting the abdomen be obtained. This patient, aged 44, suffered from indigestion, and remembered that as a child he had suffered abdominal pain and constipation. This absence of a definite history of abdominal trouble during childhood is not surprising when we remember the slight symptoms and the difficulties in diagnosis in the great majority of cases of tabes mesenterica in children. The cardinal symptom of calcified abdominal glands is pain, but there certain cases lead me to believe that hæmaturia may also be a symptom.

Pain.

All surgeons will admit that the diagnosis of the cause of obscure abdominal pain is a matter of some difficulty and the result of the investigation is sometimes disappointing. The distribution of pain due to conditions affecting the kidney and ureter is well-known. On the right side of the abdomen two other common pain areas may give rise to difficulty in diagnosis—namely, gall-bladder and appendix pain. The position of these also is familiar to all of you.

In a number of the 42 cases other pathological conditions were present in addition to the calcified abdominal glands. Thus in 7 cases there was stone in the kidney or ureter, in 2 there was pyelitis, in 3 urinary tuberculosis, and 1 patient was pregnant. These conditions all tended to mask the symptoms that might have been due to the glands and thus confuse the diagnosis. But there were 28 cases in which no other disease beside the calcified abdominal glands could be detected and the following notes in regard to the symptoms are based upon these cases

Pain is the chief symptom in calcified abdominal glands; it was the prominent feature in 25 out of my 28 cases. It was a dull ache in 4, very acute pain amounting to abdominal colic in 14, and moderately acute pain in 7.

In the majority of these pure cases the pain was a severe colic (14 in 25). The duration might vary from a few minutes to several hours. The pain commenced suddenly and usually ceased suddenly. In severity it was comparable to the two chief abdominal colics—namely, renal and biliary colic—and was much more severe than that of appendicitis. In distribution it resembled that of moderate renal pain or of renal and ureteral colic in 17 cases, of appendicitis in 4, and the pain resembled biliary colic in 1. In 5 the pain area was not defined and in 1 case there was no pain. There were certain negative points that helped to distinguish the pain due to calcified glands from that of renal colic. Movement had practically no effect in initiating or in increasing the pain. Vomiting, so common in renal and also in biliary colic, was absent in these cases. There was no retraction of the testicle and no pain referred to other parts of the body. There was very rarely any disturbance in the action of the bowels such as might be expected in a case of appendicitis of long standing. A tender spot was present in the abdomen in four cases where the calcified gland was the only disease present. The tender area lay directly over the calcified gland and, in all of the cases, lay within the area of tenderness present in cases of appendicitis, so that this sign tended rather to confuse than to clear the diagnosis. In one case the calcified gland could be felt as a nodule and rolled beneath the finger at a point in the line of the ureter above the brim of the pelvis. The proportion of cases in which the pain resembled that of renal pain, or colic, may have been unduly large from the fact that this class of case was the most likely to come under my care.

The explanation of the pain is, I think, to be found in the proximity of the calcified glands to the ureter. The drag or pressure of such a calcareous mass would very easily cause ureteric spasm. The aching pain in the appendix region in four cases was due to the position of the calcified gland in this area.

Hæmaturia.

Blood was present in the urine in microscopic or in naked-eye amount in six cases where no disease except the calcified gland could be detected. One case had severe intermittent hæmaturia for eight years as the only symptom. This case may be described in detail as it is of exceptional interest.

History.—A female, unmarried, aged 25, first noticed blood in the urine in 1912, at the age of 17. Since that time there had been intermittent hæmaturia, the attacks being brought on by walking or other exertion. For six months she remained recumbent and saw no blood. At the end of that time she walked and the blood recurred. She was examined by a number of physicians and surgeons during the eight years of her illness. The diagnosis of chronic nephritis was first made but this was abandoned. Bacilluria was found on two or more occasions. On other examinations the urine was free from organisms. Guinea-pig inoculations were negative. There were occasional granular casts and some blood casts had been found.

Condition on Examination.—I examined her in December, 1920. The bladder and ureteric orifices were normal. A specimen of urine drawn from each kidney was normal. Examination with the X rays showed a group of irregular shadows on the right side of the spine opposite the fifth lumbar vertebra just above the iliac crest. There were no other abnormal shadows. There was no tenderness at any part of the abdomen and no enlargement of either kidney. There were no signs of chronic nephritis in the urine or in the general condition of the patient.

Operation.—In January, 1921, I removed a chain of calcified glands extending from the ileo-cæcal junction for some distance upwards. The appendix was adherent and fibrous and was removed. Careful palpation of the kidneys, renal pelvis, and ureters revealed nothing abnormal.

The report on the appendix showed that it was the seat of chronic obliterative inflammation. In January, 1922, the patient had almost resumed her normal life. She was getting about and had been taking dancing lessons. There had been no recurrence of the hæmorrhage. The laboratory report on the urine showed some red blood cells, some epithelial squames, and a few granular casts.

Any statement in regard to the relation of hæmaturia to calcified abdominal glands must be purely speculative. In the cases in which this symptom has been present and no other cause has been ascertained, removal of the calcareous masses has been followed by disappearance of the hæmaturia. One may, therefore, I think, be justified in suggesting some relation of cause and effect between the glands and this symptom. The close anatomical relation of the calcareous glands to the ureter is undoubted. In several cases of calcareous glands I have found the passage of a catheter up the ureter arrested at the level of the glands, and although other more rigid or smaller catheters pass on, I have gained the impression that some pressure or drag existed at this part. Looking back on cases of obscure hæmaturia, I can recall, and I think most urologists must have seen, cases where the only cause of the hæmaturia was some condition outside the ureter, such as an appendix abscess. One cannot avoid the conclusion, therefore, that calcareous glands may by pressure, or by dragging on the ureter, be the cause of hæmaturia.

X Ray Diagnosis.

With the complete X ray examination of obscure abdominal cases that is now customary, the discovery of calcified glands is becoming much more common. But, as a result, new difficulties of diagnosis have arisen in the interpretation of radiograms of the abdominal areas. The shadow thrown by calcified glands are most likely to be confused with those of stone in the renal pelvis or ureter, or with gall-stones. There are other less common shadows, but it is not difficult to differentiate them.

1. *Position of a Shadow in the Renal and Gall-Bladder Areas.*—The shadow of a normal kidney can be recognised in a radiogram of first quality. The lower pole and inner border are most evident, and the upper pole less defined. The inner border closely approximates the oblique line of the outer border of the psoas muscle. The normal gall-bladder has been demonstrated on several occasions. In most of the pathological conditions of the gall-bladder the wall is thickened and the outline of the gall-bladder can be shown in a radiographic plate of proper quality. There is greater variation in the position of the gall-bladder than in that of the kidney in normal individuals. It very frequently occupies the space between the twelfth rib and the outer border of the psoas muscle that is occupied by the kidney. The shadow is an elongated pear shape with the apex above (Knox). It lies nearer to the twelfth rib than does the kidney shadow and its long axis is not parallel to the outer border of the psoas shadow as in that of the kidney shadow, but bisects the angle between the shadows of the twelfth rib and the outer border of the pyriform gall-bladder, and the outer border of the psoas shadow is much greater than that below the kidney and the psoas. Very considerable variation is found in the relation of the gall-bladder to the bony landmarks, and this is sometimes due to a long and oblique twelfth rib narrowing the costo-vertebral angle. The gall-bladder shadow is then behind the twelfth rib and last intercostal space. (Fig. II.) The long axis may be more vertical or more transverse.

If the outline of the kidney or gall-bladder is shown on a skiagram, a shadow thrown by a stone in either organ may be localised, or a shadow thrown by calcareous glands may lie outside these areas and the diagnosis can then be made. The stereoscopic method will give valuable information in regard to the depth of the shadow from the surface, but this is not sufficiently accurate for the localisation of a doubtful shadow in the kidney or gall-bladder. A calculus in the gall-bladder may lie, as Knox points out, at any depth from 3 cm. to 13 cm. from the anterior surface of the body, depending on what part of the gall-bladder or ducts it occupies.

2. *Size and Shape.*—Very large shadows may be thrown by kidney-stones or gall-stones, but rarely by

calcified glands. The larger shadows thrown by calcified glands are usually groups of shadows and not a single shadow. A large shadow, if thrown by a kidney-stone, will usually be accompanied by a large kidney that is readily palpated in the loin, for in such cases the kidney is usually dilated with urine or pus. It may be stated, therefore, that when a large oval or round shadow appears in the loin without urinary symptoms and the kidney is not palpable, the shadow is more likely to be thrown by a gall-stone than by a kidney-stone. There are, however, some remarkable exceptions to this generalisation where a very large kidney-stone, surrounded by a thin layer of kidney tissue, was not palpable in the loin. A stone free in a cavity such as the pelvis of the kidney or the gall-bladder will have a round or oval shape rarely, if ever, seen in a calcified gland; there the deposit of salts is not on the surface of a free body but in the irregular necrotic areas of a diseased tissue the outline of which is irregular. Thus, a wedge-shaped shadow is characteristic of a stone in the renal pelvis and a branching shadow is certainly renal. A shadow with irregular outline may be renal or glandular, but is not biliary.

3. *Density and Uniformity of the Shadow.*—A calcified gland or group of glands has in the average case a density midway between a urinary calculus and a gall-stone. It is not so dense as a urinary calculus of the same size and it is denser then a gall-stone. There are, however, some exceptional cases where a gland may throw a dense shadow comparable in opacity to a kidney-stone, and occasionally a gall-stone may contain a large proportion of salts which cast a heavy shadow. (Fig. II.) Calcified glands throw a shadow irregular in density. When a large shadow is thrown, it has a mottled appearance that distinguishes it from the shadow of a urinary calculus or a gall-stone. When a group of shadows are demonstrated there is a varying density in different parts of the same shadow and between the different shadows that distinguish them from urinary calculi. The shadow of a large calcified gland is not heavier than that thrown by a small gland. The shadow of a urinary calculus is homogeneous and the density varies with the size of the calculus. There is one exception, however, when a flat calculus is photographed in face. This will give a faint shadow when the outline is that of a large calculus. In gall-stones the density of the shadow does not correspond to the size of the calculus. The most characteristic form of gall-stone shadow has a central nucleus, a faint somewhat irregular density in the body, and a dense ring at the periphery. The details of structure and the regularity of the shadow are almost characteristic. Rarely, as Knox points out, a renal calculus may throw a shadow which in detail and arrangement has the character of a gall-stone.

4. *Grouping of Shadows.*—When a number of shadows are present, the arrangement of the shadows will conform to some extent to their surroundings. If calculi lie in a cavity, they will assume more or less completely the shape of the cavity. Large branching calculi in the kidney throw a shadow which resembles a cast of an enlarged renal pelvis and branching calyces. Shadows of multiple calculi in the kidney which do not form this perfect cast, may, nevertheless, with careful study be recognised as occupying the pelvis and calyces. If a wedge-shaped shadow of a pelvic calculus is present, outlying shadows which occupy calyces will radiate outwards from the base of the wedge. In gall-stones, where all the stones throw a shadow, a peculiar mosaic or honeycomb pattern is produced, which is unmistakable. Where only some of the gall-stones are opaque, or where calculi lying in the ducts are opaque, a line of opacities may be recognised. This line will radiate downwards and outwards from the costo-vertebral angle, and would cross the lines of radiation of renal calculi.

5. *Effect of Respiration and Change of Position.*—A stone in an adherent kidney and one in the gall-ducts is fixed and the shadows will move little, if at all, with respiration or change of posture. A calcified gland is never fixed. A range of movement of the shadow of a stone in the kidney free from adhesions, of a stone free in the gall-bladder, and of a calcified gland, differ from each other. Of the three the kidney shadow moves least, the gall-stone shadow next, and the calcified gland shadow has the greatest range of movement. Not infrequently the gland shadow will, on a second exposure, be found to have moved completely out of the field. The direction of movement is also of importance. Knox has shown by making double exposures on the same place, one in full inspiration and one in full expiration, that the kidney-stone shadow moves downwards and outwards, while the shadow of a gall-stone free in the gall-bladder moves almost directly downwards. The shadow of a stone in the common or cystic duct has a less pronounced displacement in deep inspiration and its line of movement will approximate that of a kidney-stone. The wide excursion of a calcified gland shadow may be vertical or lateral. Extreme lateral movement is characteristic of the calcified gland shadow. In one plate the shadows may lie on the spine, in another over the iliac bone.

6. *Pyelography.*—By pyelography the doubtful shadow, which may lie within the kidney area and actually within the limits of the kidney shadow, may be proved to lie outside the renal pelvis and calyces. (Fig. V.) The shadow of a kidney-stone will be engulfed in, or, at least, continuous with, the shadow of the renal pelvis or one of the calyces. The shadow which lies apart from the pelvis or calyces is not a renal calculus, and the diagnosis will lie between a gall-stone (Fig. VI.) and a calcified gland. (Figs. VII., VIII., IX.) Fallacies exist, however, even in this accurate method and a calcified gland may throw a shadow over the kidney and even over a pyelographic shadow of the renal pelvis. A superimposed gall-stone may also come within the area of the pelvis and calyces and cause confusion. (Fig. XI.) There are many cases, therefore, where antero-posterior radiography and antero-posterior pyelography will fail to give a definite decision in regard to the position of a doubtful shadow. In such cases lateral radiography and pyelography are invaluable.

7. *Lateral Radiography and Pyelography.*—Dr. R. Knox and the writer have discussed fully the technique of this method elsewhere, and it is unnecessary to revert to these details. In lateral radiography the kidney lies on the sides of the bodies of the first, second, and upper part of the third lumbar vertebræ. Its shadow cannot, even in a radiogram of the first quality, be defined. In a pyelogram with an opaque catheter in the ureter, the pelvis and abdominal segment of the ureter is shown. The pelvis throws an elongated oval shadow tapering at its lower extremity and lying in the shadow of the body of the second lumbar vertebra. From this project, to right and left—that is anteriorly and posteriorly—the shadows of the calyces. The upper calyces project above the shadow of the pelvis like horns and the lower calyces downwards below the pelvis. The ureter passes downwards and forwards, crossing the body of the third lumbar vertebra and reaching the line of the anterior border at the lower border of the third and the upper border of the fourth lumbar vertebra. (Fig. X.) In lateral radiography with the kidney in its normal position, and where no great enlargement of the organ is present, a kidney-stone will throw a shadow on that of the body of the second lumbar vertebra. (Fig. XII.) A stone occupying the extreme limit of a calyx may throw a shadow which appears behind the body of the vertebra, but this is a rare finding and will not give rise to confusion with any other shadows. The two conditions which may cause confusion with the shadow of a kidney-stone are gall-stones and calcified abdominal glands. The gall-stone shadow lies well in front of the shadow of the vertebral bodies, usually at the level of the upper three lumbar vertebræ, but sometimes as low as the fourth lumbar vertebra. The shadows of calcified abdominal glands may lie as high as the kidney, but they are usually lower down at the level of the third and fourth lumbar vertebræ,

SIR J. THOMSON WALKER: THE RELATION OF CALCIFIED ABDOMINAL GLANDS TO URINARY SURGERY.

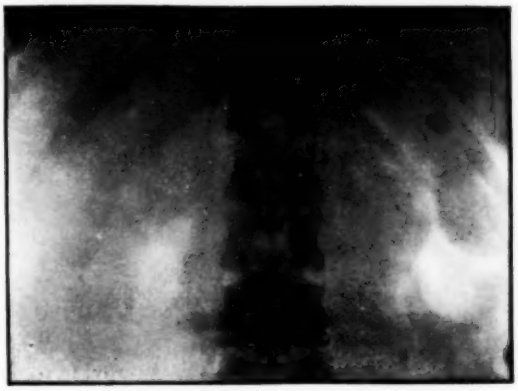


FIG. II.—Shadow of gall-bladder and gall-stone.

FIG. III.—Shadow of calcified gland in mesentery.

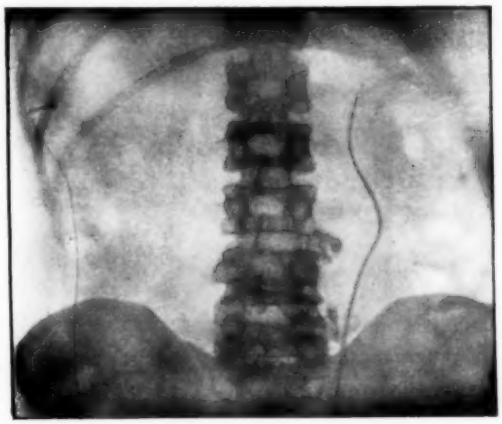


FIG. IV.—Calcified gland shadow in relation to ureter.

FIG. V.—Shadow of calcareous gland in renal area. Pyelography excludes renal calculus. (Mr. Clifford Morson's case.)

FIG. VI.—Shadow of gall-stone in renal area. Pyelography excludes renal calculus.

FIG. VII.—Calcified glands (iliocolic group) with pyelogram.

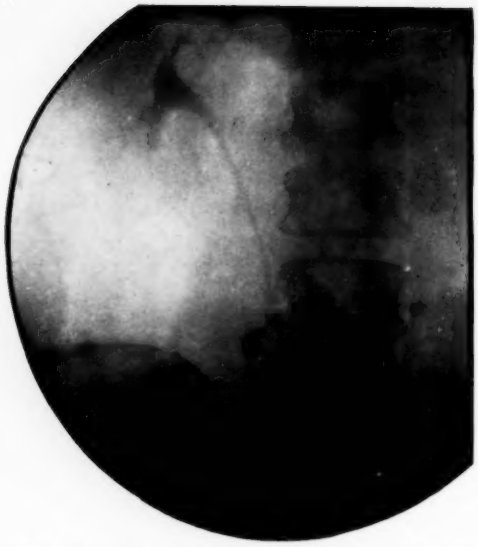


FIG. VIII.—Large masses of calcified glands over fourth and fifth lumbar vertebræ. Pyelogram.

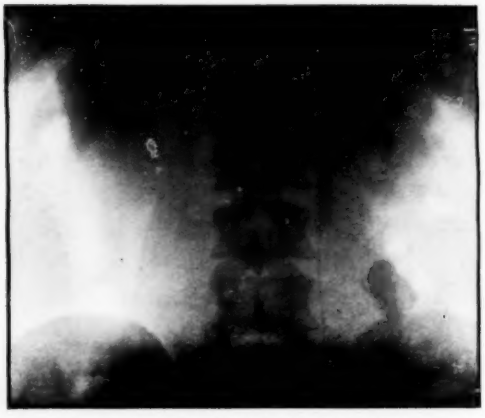


FIG. IX.—Wedge-shaped calcified gland shadow and pyelogram.

FIG. X.—Lateral pyelography with calcified gland in front of ureter. Renal pelvis over second lumbar vertebra.

FIG. XI.—Characteristic gall-stone shadow partly superimposed on shadow of branching kidney calculus.

FIG. XII.—Lateral radiography. Stone shadows over bodies of second and third lumbar vertebræ.

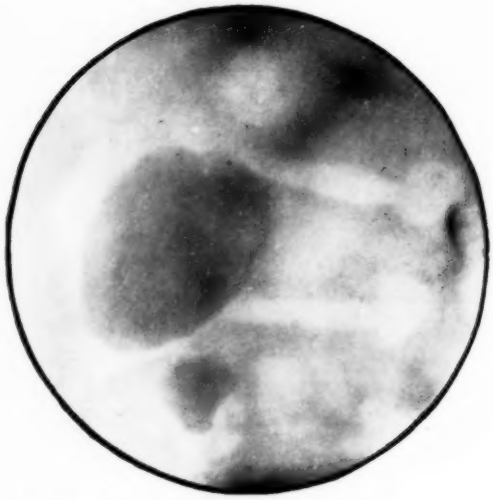


FIG. XIII.—Lateral radiography. Large kidney-stone projecting in front of body of vertebra.

and always in front of the bodies of the vertebræ. (Fig. X.) It should be noted in examining doubtful shadows in the abdomen that disease may alter the relation of the organs. Thus, a movable kidney has a wide excursion, and in the antero-posterior view the shadow thrown by a calculus in such a kidney may be found below the crest of the ilium. Further, mobility of the kidney may completely change the relation of the organ to the vertebral bodies in lateral radiography. If a patient with a movable kidney is turned on the side the organ falls forwards and a stone shadow may be thrown in front of the anterior margin of the bodies of the vertebræ. To avoid this displacement the lateral view must be taken with the patient lying on his back. Lateral pyelography with an opaque catheter in the ureter will, in any case, settle the relation of the doubtful shadow to the ureter and renal pelvis.

A stone in a greatly enlarged and adherent kidney will throw a shadow in front of the spine. (Fig. XIII.)

TREATMENT.

In 11 of the 42 cases of calcified abdominal glands I operated and removed the glands. In 10 of these cases the operation was planned for the removal of the glands, and in one a calculus was removed from the kidney and the gland was uncovered in stripping up the ascending colon and removed at the same time. One other case was operated upon, on my advice, by Mr. G. H. Percival, of Northampton, who removed three calcareous glands. The result of the operation on these cases was the disappearance of the pain, whether it had the form of constant aching or recurrent attacks of colic. In one case, that of a very stout woman with a large caseous gland near the upper end of the mesenteric attachment, there were several attacks of acute pain soon after the operation, but these have now ceased and there has been no further attack. All the other cases have remained free from pain since the operation. In the case of severe, recurrent, painless hæmaturia that I have described in detail, the attacks of hæmaturia have ceased and the patient has returned to practically normal life after being an invalid for about eight years.

These results have justified the operation, and although the number is not large, it is sufficient, I think, to lift the operation out of the purely experimental or speculative stage. The question as to whether the operation should be recommended in all cases where calcified mesenteric glands are discovered is, however, open to discussion. The evil results of the glands in my cases was practically confined to the causation of pain.

At the end stage of the disease there is no longer any danger of general dissemination of the tubercle bacillus, nor, in my opinion, is there any probability of infection of the urinary tract. Tuberculous peritonitis is not a concomitant or a sequel of this condition, and adhesions which might interfere with the action of the bowel or form obstructing bands do not form. From the point of view of the possible development of these complications, therefore, operation need not be considered.

The question is, I think, largely one of the degree of severity of the symptoms, and this will frequently be decided by the patient himself. In 16 of the 42 cases operation was suggested, and was either refused or indefinitely postponed by the patient, owing to the operation being considered too severe a method of treatment for the symptoms or to a temporary lull in the symptoms. In children this view is subject to modification. Here there is some probability of other more recently infected glands being present alongside the calcareous glands which throw a shadow.

Against any general rule of operation in these cases in children is, however, the knowledge that recovery without operation must take place in the great majority of these cases without further trouble. The fact that a large number of cases of calcified abdominal glands are now discovered during routine examination in adults itself lends support to this conclusion. Carson, Corner, and Branson all advocate operation in children, the two former authorities from the point of view of local abdominal conditions, and the latter from the fear of general complications. Corner lays it down very definitely that operation should only be performed in these cases where a palpable swelling in the abdomen is detected. This narrows the field to quite a small minority of cases in children.

My view in regard to adults where the calcareous end-stage of tabes mesenterica has been reached, is that operation is only justifiable in those cases in which symptoms are severe and are proved to be directly due to the calcified glands. These cases can be selected only after investigation by thorough modern methods of examination. The operation presents no great difficulties, but requires care and patience to remove the calcareous masses by blunt dissection. A paramedian incision to the right or left of the mid-line was used and care taken to avoid injury to the superior mesenteric artery and its branches and to the numerous veins that adhere to the glands.

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SOME INVESTIGATIONS INTO A CASE OF PAROXYSMAL HÆMOGLOBINURIA.

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THE following paper contains an account of some investigations concerning a patient, a man aged 47 years, admitted into the hospital at Rotterdam in January, 1921, who had been suffering for two years from paroxysmal hæmoglobinuria.

History.—The patient had noticed that the attacks only occurred after exposure to cold. In the warm season he was never troubled by them. The attacks began with shivering and a feeling of extreme cold in his feet and hands; the hands turned white and sometimes became somewhat numbed. He had no headache or pain in the joints. During attacks he often had nausea and occasionally he vomited. The attacks were accompanied by feverish symptoms, and came at regular intervals, generally in the morning; by evening the attack would have passed off. The patient had never had eruptions of the skin, nor pruritus; he had become paler and thinner during the few months prior to examination and soon felt tired and exhausted. It is interesting to note that he admitted having had syphilis some years before.

Condition on Examination.—The patient looked well-nourished. The mucous membranes were moderately coloured. There was a slight icteric discolouration of the scleræ. In the neck and axillæ a few small glands could be felt. The pulse was normal as to rate and other qualities. The heart and lungs were normal; on percussion the liver was perhaps somewhat enlarged, but could not be distinctly felt. The spleen was not enlarged. In the abdomen nothing special was noticed. There was no dropsy and no abnormality of the nervous system. The urine contained albumin and no sugar; the urobilin reaction was positive. In the urine was a brown granular sediment, together with some normally coloured and some colourless erythrocytes and a few granulated casts. On the day of admission the

urine had a brownish-black colour. Two days later it had recovered its normal colour and contained no sediment or albumin. The slight yellow discolouration of the scleræ had also rapidly disappeared. The blood contained 60 per cent. hæmoglobin, 3,700,000 erythrocytes, and 6100 leucocytes in normal proportions; microscopical examination revealed nothing of importance. The Wassermann reaction was 100 per cent. positive.

During the patient's stay in hospital (about two months) there was no rise in temperature; he had no attack of hæmoglobinuria and did not feel ill.

Remarks.

The notes of the case and the few symptoms observed on admission made it very probable that the patient was suffering from paroxysmal hæmoglobinuria. Most investigators attribute a great diagnostic value in this disease to a positive reaction of Donath and Landsteiner, which is carried out as follows:—

Either the patient's defibrinated blood, or his serum, to which a quantity of his washed corpuscles are added, is placed for half an hour in ice, after which it is put into an incubator at 37° C., whereupon intensive hæmolysis appears. It is believed that the serum of persons suffering from paroxysmal hæmoglobinuria contains an amboceptor, which is fixed to the erythrocytes at low temperatures, but not at 37° C.; at the temperature of the incubator the complement can bring about hæmolysis of the sensitised erythrocytes. Thus sufferers from paroxysmal hæmoglobinuria, according to Donath and Landsteiner, possess an auto-hæmolysin which only becomes active after the blood has been exposed to refrigeration.

It would lead too far to discuss all that has been written on Donath and Landsteiner's experiment. Suffice it to say that most, but not all, authors obtained positive results. It is quite evident that Donath and Landsteiner's experiment is a very rough imitation of nature. It is true that refrigeration is necessary to bring about an attack of paroxysmal hæmoglobinuria, but such a severe reduction of temperature of the blood in the body as is needed for the experiment as carried out by these workers will never actually take place.

Before discussing the conclusions to which these experiments have led us in the case of our own patient, we shall devote a few words to Donath and Landsteiner's experiment. Hymans van den Bergh and C. Hymans applied this experiment to three patients. In one case they observed the remarkable fact that the blood, coagulated at 37° C., produced clear serum, in which there was no solution of hæmoglobin, while the blood coagulated at normal indoor temperature showed hæmolysis quite plainly. They believed the explanation to be as follows: Donath and Landsteiner's amboceptor is supposed to combine with the erythrocytes at a minimum temperature of 0° C., a maximum of 37°, the complement combining best at 37° and not at 0° C. This would lead one to suppose that between 0° C. and 37° C. there lies a temperature at which both of the components in question would be active. Experiments in coagulating the patient's serum made at various temperatures exhibited the most active form of hæmolysis at 10° C.; above and below this point hæmolysis was less strongly marked. In two cases (the third patient had meanwhile left the hospital) Hymans van den Bergh and C. Hymans found Donath and Landsteiner's test always positive with the patient's serum obtained at 37° C.; if they used serum obtained at ordinary indoor temperature, the reaction was negative. These results were confirmed by Rosin. Our own experiences with Donath and Landsteiner's test in the case of our patient coincide with those of Hymans van den Bergh and his assistant.

Method of Experiment.—A vein puncture was made; some of the blood taken was immediately placed in an incubator, some was preserved at ordinary indoor temperature, some was caught in a tube, containing sterile physiological salt solution, after which the blood corpuscles were freed from the plasma by repeated washing. With the serum taken at 37° C., as well as that obtained at ordinary indoor temperature, Donath and Landsteiner's test was applied (1 vol. serum + 1/5 vol. erythrocytes, ½ hour in ice, then 1 hour at 37° C.; as a control the same mixture was placed for 1½ hours in the incubator). Now it repeatedly appeared: (1) that the serum taken at 37° was always perfectly clear; (2) that the serum taken at normal indoor temperature showed some degree of hæmolysis; (3) that Donath and Landsteiner's test with the first serum was always positive; and (4) that this test with the second serum was always negative.

As we have remarked above, Donath and Landsteiner's test demands conditions in vitro which in vivo cannot be supposed to exist. The following experiments of Hymans van den Bergh and C. Hymans are more satisfactory in this respect. They acted on the hypothesis that in an actual attack of hæmoglobinuria some substance must be present which in the experiments in vitro had been disregarded; this substance they supposed to be carbonic acid. We know how many sufferers from paroxysmal hæmoglobinuria exhibit vaso-motor disturbances, where accumulation of carbonic acid is possible. Moreover, Chvostek had noted that in some cases ligature of an extremity alone was sufficient, without any reduction of temperature, to bring about an attack, and thirdly it is known from Hamburger's experiments that carbonic acid is capable of diminishing the resistance offered by erythrocytes. This last fact also was responsible for the introduction by Hymans van den Bergh and C. Hymans of carbonic acid into their experiments, although, as we shall presently show, neither their results nor our own permit of our acknowledging any direct influence of carbonic acid on the erythrocytes in paroxysmal hæmoglobinuria.

Hymans van den Bergh and C. Hymans began their experiments by placing defibrinated blood in watch-glasses. One of these was left in the air at normal indoor temperature; a second was placed under a bell-jar filled with carbonic acid gas at normal indoor temperature, a third in an incubator at 37° C., and a fourth in an incubator filled with carbonic acid gas at 37° C. Repeated tests made in this way with blood taken from the two patients proved that only the defibrinated blood which had stood at ordinary temperature in the carbonic acid atmosphere showed strong hæmolysis, in the other three glasses this was not the case.

In our case we made similar tests as follows:—

1. Defibrinated blood for two hours in a small glass at normal indoor temperature: no hæmolysis.
2. Defibrinated blood for two hours at normal indoor temperature under a bell filled with CO_2: strong hæmolysis.
3. Defibrinated blood for two hours at 37° C.: no hæmolysis.
4. Defibrinated blood for two hours at 37° C. under a bell-jar filled with CO_2: no hæmolysis or only a trace.
5. The same four tests with defibrinated blood of a normal person: no hæmolysis.
6. Patient's serum + his washed erythrocytes (proportion 1 c.cm. to 1 drop) two hours at normal indoor temperature: no hæmolysis.
7. Patient's serum + erythrocytes two hours at normal indoor temperature in an atmosphere of CO_2: strong hæmolysis.
8. Patient's serum + erythrocytes two hours at 37° C.: no hæmolysis or sometimes a trace.
9. Patient's serum + erythrocytes two hours at 37° C. in atmosphere of CO_2: no hæmolysis or slight trace.

Explanation of Diverse Results Obtained.

By these experiments it is clearly proved that (as has been first demonstrated by Hymans van den Bergh and confirmed by Krokiewicz) carbonic acid gas, both in defibrinated blood and in a mixture of serum and washed red blood corpuscles of the patient, is capable of causing distinct hæmolysis at ordinary laboratory temperature. The results of our experiments, as here set down, were only obtained after the test had been carried out with the utmost care. Experiments 4 and 9 especially showed at first other results, and a distinct, albeit not pronounced, hæmolysis was to be traced, this being contrary to the experiences of Hymans van den Bergh and Hymans, who at 37° C. observed no effects of the carbonic acid gas.

We soon got to the bottom of the cause of this *apparent* diversity. In our first experiments we filled the watch-glasses with defibrinated blood (or with serum and erythrocytes) and glass bells with carbonic

acid gas, which had been kept at normal indoor temperature; we used glass utensils which also had not been warmed beforehand. We thought, therefore, that the unexpected results of experiments 4 and 9 might perhaps be due to the fact that for a short period blood and CO_2 had been in contact before they had reached the temperature of the incubator. We therefore repeated these experiments, after previously placing the blood, the serum, the washed blood-corpuscles, and all the instruments to be used for some time in the incubator. The various stages of the experiment were then carried out as quickly as possible in the immediate neighbourhood of the incubator. A certain loss of heat was, of course, even then unavoidable, but the result was very different from that obtained in the previous experiments, when these precautions had not been taken; we now observed no hæmolysis, or only extremely slight signs of it. (In this connexion we should mention the fact that Hymans van den Bergh and Hymans once noted a slight hæmolysis in the incubator experiment on an occasion when, by some neglect, the temperature had been allowed to fall to 32° C. instead of being kept at 37° C.)

Importance of Carbonic Acid Gas.

We are of opinion that in these experiments we have as close an imitation as is possible of what nature shows us in the case of sufferers from paroxysmal hæmoglobinuria. If the patient has an attack, after being out in the cold, the blood in hands and feet can only be slightly chilled before reaching the more protected parts of the body. Such patients are often sufferers from vasomotor disturbances, while the somewhat chilled blood is liable to exposure to a certain amount of carbonic acid gas collected in the system. The following observations are remarkable in this connexion. As we have already stated above, Chvostek proved that in some cases the simple ligature of an extremity, thus causing an accumulation of carbonic acid gas in that part, was enough to provoke an attack. Burchhardt, however, who also made this statement, noted that the attack did not take place if the ligatured finger was at the same time kept at a temperature of 37° C. The slight chill to which, in the test case of Chvostek, the ligatured members were undoubtedly exposed and which Burchhardt avoided, was thus sufficient to submit the blood in the ligatured member to the influence of the carbonic acid gas. Our own experiments also proved that the slight chill to which the blood was exposed was capable of exciting hæmolysis in an atmosphere of carbonic acid gas. From these experiments we therefore come to the obvious conclusion that carbonic acid gas plays a very important part, and that a mere chilling of the blood is sufficient to make evident its effect. At this juncture we cast about for some rational explanation of the action of the carbonic acid gas and judged the first step in this direction to be an examination of the patient's blood, with a view to ascertaining whether the corpuscles or the serum revealed any peculiarity as compared to the blood of a normal person. To this end we made the following experiments:—

1. Patient's serum + patient's erythrocytes for two hours at normal indoor temperature in CO_2 atmosphere: strong hæmolysis.

2. Patient's serum + normal erythrocytes for two hours at normal indoor temperature in CO_2 atmosphere: strong hæmolysis.

3. Normal serum + patient's erythrocytes two hours at normal indoor temperature in CO_2 atmosphere: no hæmolysis.

4. Normal serum + normal erythrocytes two hours at normal indoor temperature in CO_2 atmosphere: no hæmolysis.

5. Patient's washed erythrocytes two hours at normal indoor temperature in CO_2 atmosphere: no hæmolysis.

From which we conclude, as Hymans van den Bergh did, that it was the patient's serum, not his blood corpuscles, which contained some abnormal property.

We were now faced by the following important question: Is it possible that the carbonic acid gas causes such changes in the serum that the latter, after the former has been removed, proves to have acquired hæmolytic properties from it when brought into contact with erythrocytes? That chilling alone, even to 0° C., cannot do this has been proved by Choroschilow, who modified Donath and Landsteiner's experiment by placing only the serum in ice and adding the erythrocytes to it later. The result was negative. We carried out our tests as follows:—

1. Patient's serum was kept two hours at normal indoor temperature.

2. Patient's serum was kept two hours at normal indoor temperature in CO_2 atmosphere.

3. Patient's serum was kept two hours at 37° C.

4. Patient's serum was kept two hours at 37° C. in CO_2 atmosphere.

At the end of the two hours sera 2 and 4 were taken out of the CO_2 atmosphere. They were poured from the original watch-glasses into test-tubes and these were well shaken. One might then presume that they were no longer under the influence of the CO_2. We should mention that all the utensils used for tests 3 and 4 had been warmed beforehand and that the sera in tests 2 and 4 were poured from the watch-glasses into warmed test-tubes.

After this the four above-mentioned sera were each divided into two parts: to the one portion of each serum washed erythrocytes of the patient were added; to the other washed erythrocytes of a normal person, all in a proportion of 1 drop erythrocytes to 1 c.cm. serum. The eight portions were then placed for half an hour in the incubator and afterwards centrifuged. It then appeared that both the erythrocytes of the patient and those of the normal person were very strongly hæmolysed by the serum which had previously been exposed to CO_2 at normal indoor temperature. In none of the other test-tubes was a trace of hæmolysis to be seen.

From this it is clear that in the case of our patient carbonic acid gas at normal indoor temperature brought about such changes in the serum that, after being placed in the incubator, this proved to possess a hæmolytic action on the erythrocytes which had been brought into contact with it after the carbonic acid gas had been removed. It is, of course, difficult to define exactly what changes the carbonic acid gas actually brings about. It is well known that hæmolysis of red blood corpuscles in a hæmolytic serum is caused by two substances, an amboceptor and a complement. This latter is destroyed when a serum is heated for half an hour to 56° C. We repeated all the aforementioned experiments with the patient's serum rendered thus inactive without finding any trace of hæmolysis, from which one would be tempted to conclude that the heating had simply destroyed the complement. The matter is, however, not so simple, as is witnessed by the fact that Hymans van den Bergh, who produced these same results with serum thus rendered inactive, could not re-induce activity by adding normal serum, as is possible with other hæmolytic sera. One can only say for the present that heating not only destroys the complement, but also withdraws from the serum the power to create or activate the hæmolytic amboceptor of paroxysmal hæmoglobinuria. According to the foregoing evidence it must be the carbonic acid gas, which, at a temperature lower than that of the body, caused this amboceptor to become active in the patient's serum.

Widal's Experiment.

Widal, Abrami, and Brissaud published in the *Semaine Médicale*, in 1913, a very interesting article on paroxysmal hæmoglobinuria. They attempted to prove the existence of three different substances in the serum by the following experiment. They placed serum and erythrocytes taken from their patients suffering from paroxysmal hæmoglobinuria for a long period (4–16 hours) in ice; it then appeared that the erythrocytes, afterwards centrifuged, washed, and placed in physiological salt solution, showed no hæmolysis at 37° C., notwithstanding the fact that the serum on being tested was found no longer to contain any complement. The erythrocytes, which after such long period had absorbed both of the necessary materials for hæmolysis, ought to have hæmolysed at 37° C.; from the fact that this was not the case, Widal and his colleagues deduced that the erythro-

cytes had drawn out of the serum some third substance, an anti-hæmolysin. They believed the serum to contain amboceptor, complement, and anti-hæmolysin, which three balance each other in a normal body and are dissociated at a lower temperature whereby the two first-named substances are no longer under restraint, thus precipitating hæmolysis. If this theory is correct, then it appears from our experiments that chill alone (at least in vitro) cannot produce hæmolysis, but that the influence of the carbonic acid gas at a temperature lower than that of the body causes the dissociation spoken of by Widal.

Having thus finished in the laboratory, we had to consider the correct method of treatment. Syphilis having been admitted and the Wassermann reaction being very strongly positive, the first thing to do was to combat the syphilis. Widal, Abrami, and Brissaud, in the article above quoted, proposed as a therapeutic mehsure a repeated injection (several times in succession) of a small quantity of the patient's own serum. Their idea was based on the argument that they regarded the serum of the patient as a heterogenic albumin and thus by repeated small injections, an anti-anaphylactic condition of the patient could be effected. The writers report favourable results from this treatment.

As will readily be understood, we much desired to make a trial of this new method, but felt ourselves morally obliged to submit the man first to anti-syphilitic treatment. We therefore treated him in the usual manner with potassium iodide, mercury, and salvarsan. We were curious as to whether these agents had not perhaps altered the abnormal properties of the patient's blood; we therefore repeated all the above-mentioned experiments with absolutely the same results as before. The anti-syphilitic treatment had thus caused no changes. It was a great disappointment that we were not able to apply the method of Widal, Abrami, and Brissaud; the patient could not be persuaded to stay any longer in hospital. He left in April, 1921, and we have heard nothing more of him.

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VARIATIONS OF BLOOD PRESSURE

UNDER INTRAVENOUS INJECTIONS OF PHENOLIC COMPOUNDS (ARSENOBENZOLS, 606, 914, &c.).

BY DR. M. POMARET.

IN my recent physiological study of the phenomena of shock following intravenous injections of arsenobenzols, which appeared in the French Supplement to THE LANCET of Dec. 2nd, I described the variations of blood pressure registered in my experiments on dogs. The chart which follows shows these variations in detail.

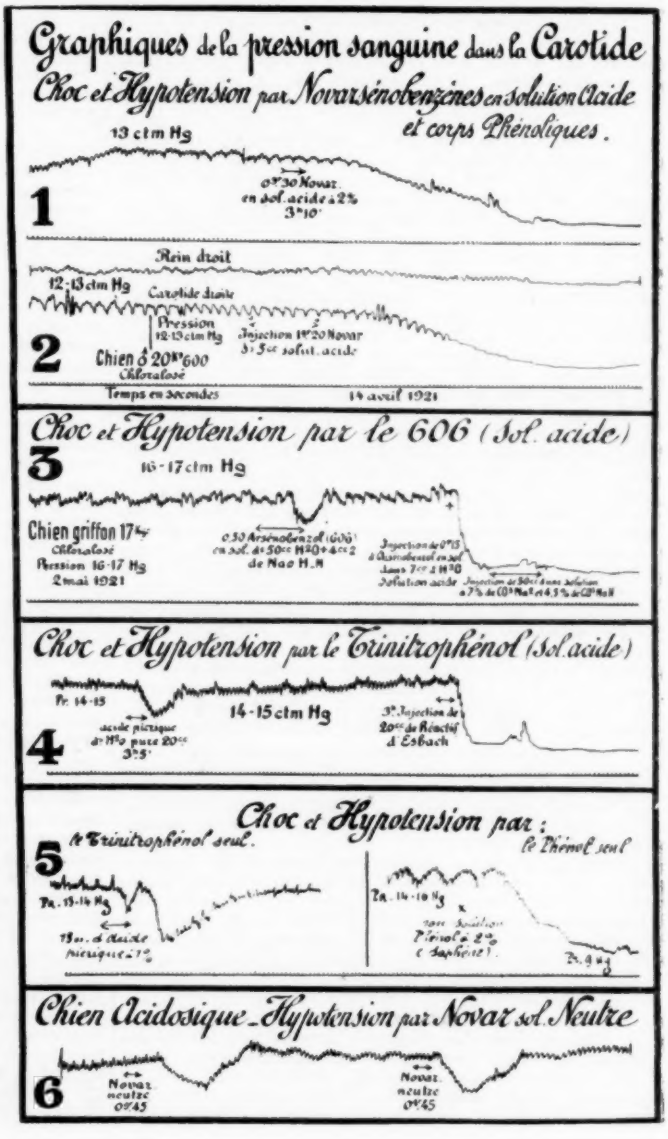
In the experiments the variations were registered in the carotids of dogs, anæsthetised with chloralose. The injections of phenolic compounds were made into the saphenous vein. The fall in blood pressure, constituting, as I said previously, the main physiological symptom of the existence of shock, the tracings which follow show graphically the cardio-vascular action produced by the phenolic compounds, injected in such conditions that they determine at first flocculation and secondarily a marked fall of blood pressure and sometimes cardiac collapse.

FIG. 1.—Rapid fall of blood pressure and fatal cardiac collapse after intravenous injection of 0·30 g. novarsenobenzol (914), dissolved in a solution of 2 per cent. tartaric acid.

FIG. 2.—Shows the same with 1·20 g. of novarsenobenzol (914) dissolved in 5 c.cm. of a 2 per cent. solution of tartaric acid. Dog weighing 20·600 kgr. anæsthetised with chloralose.

FIG. 3.—Dog weighing 17 kgr. anæsthetised with chloralose. First injected with an alkaline solution of 606 (0·50 g. arsenobenzol in 50 c.cm., containing 4·2 c.cm. of NaOH-N). The fall of blood pressure was small and transitory, but the intravenous injection of only 0·15 g. of 606, dissolved in 7 c.cm. of water (acid and precipitating solution) was followed by an immediate fall of blood pressure, which was not compensated for by the injection of an alkaline solution (CO_3Na_2). Death in cardiac collapse.

FIG. 4.—Shock and fall of blood pressure after intravenous injection of 20 c.cm. of solution of 1 per cent. picric acid (trinitrophenol).



Injection of 20 c.cm. of Esbach reagent (acid solution of trinitrophenol); immediate and marked fall of blood pressure and mortal cardiac collapse.

FIG. 5.—Fall of blood pressure after intravenous injections of picric acid and carbolic acid (phenol) in 1 per cent. solution.

FIG. 6.—Transitory fall of blood pressure after injection of 0·45 g. of novarsenobenzol (914) in neutral solution. The fall of blood pressure appears because the dog has become acidosed by reason of a prolonged fast from carbohydrates with high fat intake, and at last injection of β-oxybutyric acid.

Conclusions.

These experiments show, as I pointed out in my contribution to the French Supplement, that phenomena of shock under intravenous injections of arsenobenzols (606, 914), are phenolic shocks, resembling the shocks registered after intravenous injections of more simple phenolic compounds as trinitrophenol and carbolic acid. The shock is the more profound, the more acid, and consequently more precipitating (flocculating) with blood plasma the solution injected.

Intramuscular injections of arsenobenzol compounds do not produce in dogs the cardio-vascular troubles here registered.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

THE ISOLATION AND PRESERVATION OF TUBERCLE BACILLI BY MEANS OF GLYCERINE.

BY C. C. TWORT, M.D. ABERD.

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As a means of isolating acid-fast bacilli from contaminated material glycerine is extremely useful. Its ease of manipulation and its efficacy appear to be infinitely superior to the chemicals which have previously been utilised for this purpose.

Tubercle bacilli in tissues, such as lymphatic glands, liver, spleen, lungs, preserved in pure glycerine, in cold storage, remain alive for months, and possibly for years. Preserved in 50 per cent. glycerine in saline, the survival is often not longer than two to four months. Again, at room temperature death of the bacilli seems much quicker, and although the effect of incubator temperature on such tissues has not been tried, one assumes that it would aid considerably in the destruction of the bacilli. Pure cultures of acid-fast bacilli do not resist the action of the glycerine so well as when the bacilli are present in tissues. Ordinary bacteria will also tolerate glycerine to a certain extent, especially in the cold, and thus it has been found that for isolating tubercle bacilli from sputum, &c., room temperature is more suitable. It is probable that incubator temperature will be found to be better still, and I have already isolated tubercle bacilli from sputum which has been inoculated with glycerine and kept at 20° C.

Briefly, the method employed is as follows: A large platinum loopful of sputum or other material from which acid-fast bacilli are to be isolated, is inoculated into tubes containing 1 c.cm. of pure glycerine, 75 per cent., 50 per cent., and 25 per cent. glycerine in normal saline. After remaining for 24 hours at room temperature, cultures are made on to Dorset's 4 per cent. glycerine egg medium or Petroff's medium. If contaminations are numerous on all the tubes, further cultures are made on the third day, but this is, of course, not necessary when only one or two contaminations are present on the tubes. Sometimes all contaminating bacteria are destroyed after 24 hours in glycerine, but more frequently they are not all destroyed, and the tubes may be very heavily contaminated. It may be necessary to revert to a third culture after a week; but the tubercle bacilli themselves do not appear to survive for longer than three to four weeks. A sufficient number of isolations have not yet been carried out to allow one to satisfy oneself as to the most suitable dilution of glycerine, and the most suitable temperature to use. It is probable that a fairly concentrated solution will be found to be the most efficacious, with a temperature somewhere in the neighbourhood of 20°-30° C. Latterly, in order to simplify the process, a quantity of pure glycerine equal to that of the sputum contained in the bottle is added, and after thorough mixing the bottle and contents are placed at 20° C., and cultures subsequently made.

So far, by the use of glycerine, I have not once failed to isolate, with extreme ease, the tubercle bacillus from any specimens in which the bacillus has been demonstrated microscopically. Specimens, if left sufficiently long in glycerine, have uniformly given pure cultures of the tubercle bacillus, even although originally containing very numerous contaminating micro-organisms. However, tubercle bacilli were always fairly numerous, and it remains for further experiments to show whether it will be possible to isolate them when very scarce and when contained in very highly contaminated material such as milk or stools.

A NOTE ON THE UREA CONTENT OF THE CEREBRO-SPINAL FLUID,

WITH SPECIAL REFERENCE TO THE DIAGNOSIS OF URÆMIA IN INFANTS.

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IN recent years considerable stress has been laid upon the importance of blood examination in renal disease. Material for this purpose can usually be obtained with ease from adults, but in the case of infants it is often a matter of the greatest difficulty to obtain sufficient blood to carry out a urea estimation. In such cases recourse may be had to the cerebro-spinal fluid, which, as a rule, may be obtained by lumbar puncture without anæsthesia, and without detriment to the infant. According to Wells,[1] there is almost the same amount of urea in the cerebro-spinal fluid as in the serum of the same person—i.e., 20 to 40 mg. per 100 c.cm.—and there is an increase of the non-protein constituents in the fluid in uræmia coincident with the increase in the blood, but to a less degree. Canti[2] has collected some data on the subject, and he notes that cases of clinical uræmia in which no other disease is present have been found to contain from 98 to 634 mg. per 100 c.cm., and that of these cases those with readings below 300 mg. are curable, while those with readings above 300 mg. are fatal. These points are of special significance in the diagnosis of uræmia in infants, in whom frequently the classical clinical symptoms are often lacking. The method of estimation employed in the following case was that outlined by MacLean.[3]

A male child, aged 2 years and 3 months, was brought to the tuberculosis dispensary with a history of dyspnœa. No chest condition could be made out, but as the child was obviously ill he was admitted to hospital on the following day in a semi-conscious condition. The temperature on admission was 96·2° F., pulse 120, and respirations 24. Some dyspnœa was present, but no œdema. There was a suspicious stiffness of the neck, and a tendency to rigidity of the whole body. Kernig's sign was doubtful, and there were no eye phenomena. Meningitis was suspected, and lumbar puncture performed; clear fluid under increased pressure was obtained. As the globulin content was not increased, and the cell count below normal, and the colloidal gold reaction negative, an estimation of urea was performed, and the

[1] Wells, H. Gideon: Chemical Pathology, 1920.
[2] Canti, R. G.: The Urea Content of the Cerebro-spinal Fluid, THE LANCET, 1916, i., 344.
[3] MacLean, H.: Modern Methods in the Diagnosis and Treatment of Renal Disease, 1921.

figure recorded was 315 mg. per 100 c.cm. The following day coma set in with complete suppression of urine. The cerebro-spinal fluid was again examined and gave a figure of 602 mg. On the third day blood was obtained in the course of venesection, and was examined by way of comparison. Urea was found to be present to the enormous extent of 710 mg. per 100 c.cm. As the child died a few hours later no further examination of the cerebro-spinal fluid was possible. Post mortem, a very pronounced acute nephritic condition was present.

This record is interesting in that it shows the value of a urea estimation of the cerebro-spinal fluid in an obscure case, and also on account of the high figures recorded.

A CASE OF CLUB-HAND.

By AYOUB MOURAD,

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THE following case of club-hand is here recorded owing to its unusual character.

The subject was a male child, aged 2 years and 3 months, the son of Jewish parents. On July 18th last I was asked to X ray his left forearm and hand, with the result shown in the radiogram. There was (1) complete absence of the left

1. The abnormal left forearm and hand. 2. The normal right forearm and hand.

radius, and (2) absence of first left metacarpal and phalanges of left thumb. The child was born with an imperforate anus. There is also partial webbing of the left index and middle fingers. No other abnormality could be discovered.

Family History.—Father, aged 36, of good constitution, gives no history and shows no signs of any specific disease. Born in Cairo of Rumanian parents. Mother, aged 34, well-built, does not remember having been once seriously ill in her life. Born in Corfu.

History of Mother's Five Pregnancies.—First pregnancy at full term. In labour the head of the fœtus was of such an abnormal size that it had to be perforated. Second pregnancy normal, labour normal, a female child delivered, now alive and of fair constitution, presenting no malformations. Third pregnancy: child delivered normally at term: it died later of enteritis. Fourth pregnancy: miscarriage at three months. Fifth pregnancy, at full term, child under discussion was born. Labour was in every way normal.

The mother remembers having pains more or less continuous in her side from the fifth month till the ninth, but never severe enough to disturb either sleep or performance of household duties.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

JOINT MEETING OF THE SECTIONS OF MEDICINE AND OPHTHALMOLOGY.

DISCUSSION ON THE DIFFERENTIATION AND PROGNOSIS OF ARTERIO-SCLEROTIC AND RENAL RETINITIS.

THIS joint meeting was held on Nov. 28th, with DR. NEWTON PITT presiding.

DR. H. BATTY SHAW, who opened the discussion by dealing with the

Significance of Vascular and Other Changes in the Retina in Arterio-Sclerosis and Renal Disease,

said that he had studied both clinically and at the post-mortem very many cases in which the heart was found hypertrophied at the necropsy. Some of the cases died of uræmia, yet the kidneys did not show the changes usually described in such cases; albuminuria was present in varying degrees, yet the kidneys showed no uniform appearance; changes were found in the retinæ which did not regularly represent any definite structural change in the kidney; in some cases there were during life signs of grave brain disorganisation, yet post mortem the brain was apparently normal, nor were there any changes in the intima of the blood-vessels. These facts did not fit in with the various theories advanced in explanation. Hyperpiesis was present in all cases, apparently directly associated with the cardiac hypertrophy. It was remarkable by its variability; in a few days it would fall from a maximum to a minimum. He had been taught that this phenomenon was due to arterio-sclerosis (he proposed to limit this expression to that change met with in the middle coat of the artery, and to the proliferation of the cells of the intima). How could hyperpiesis vary so quickly and yet be due to such a stable condition as arterio-sclerosis? The speaker suggested that it could be explained by the presence of a variable amount of poison present in the blood, which would also explain the clinical conditions and the changes in the artery coats. Too much importance seemed to have been attached to local dyscrasia of the kidneys, and efforts were now being made to show that the changes in the kidneys were produced by a toxæmia. It had been known for many years that intimal change could be produced by injection of bacterial toxins and it was now claimed that the changes in the middle coat were the result of a chronic inflammation.

Despite their strong views that it was possible to differentiate arterio-sclerotic retinitis from albuminuric retinitis, ophthalmic surgeons found difficulties. They actually admitted that an "arterio-sclerotic retinitis" might be succeeded or accompanied by signs of "renal retinitis." This had been explained by the suggestion that arterio-sclerotic changes had progressed and had involved the kidney and had so caused the superadded changes in the retina. Some ophthalmologists conceded that the retinal changes in renal retinitis were toxic. There was a thickening of the middle coat of the retinal arteries, hence their silver or copper wire appearance; and there was a thickening of the intima, hence their irregular lumina as seen by the ophthalmoscope. Both changes meant added strength to the arteries. How could the retinal hæmorrhages in arterio-sclerotic retinitis be explained? When the hæmorrhage passed off there was no sign of rupture of a retinal artery or vein. As a physician, he thought they might be capillary in origin and comparable to the petechiæ of malignant endocarditis and other infective disorders. How were the white patches seen in arterio-sclerotic retinitis explained? What caused their formation? was it not some noxious agent brought by the blood-stream?

It was said that renal retinitis was always bilateral, yet ophthalmic surgeons had found "renal" changes

in one retina shown by unilateral papilloedema. Blood poisons did not necessarily produce symmetrical changes; unilateral Argyll Robertson pupil and single wrist-drop in lead poisoning were examples. Retinal hæmorrhages and white patches had been noted in pernicious anæmia, in the "fast disappearing disease" chlorosis, and even in the secondary anæmias due to peptic ulcer or to malignant ulcer of the stomach. And in secondary anæmias soft-edged white patches were developed in the retina quite indistinguishable from the "cotton-wool patches" of renal retinitis. Dr. Shaw thought that in the case of arterio-sclerotic retinitis the hæmorrhages and white patches and the slight change in the disc differed only from those met with in "renal" retinitis by their being called into existence by the slower operation of blood poisons, or by a decreased local tissue-sensitiveness in the former case, or by a smaller amount of such poisons arriving at the scene of action in the former case, as compared with the latter. If further evidence was needed that changes in the retina could be produced by a disordered blood state rather than by changes in the kidney or by changes in the retinal vessels, it was beautifully illustrated in eclampsia, where changes might be met with in the eye and in no other organ, such changes being remedied by evacuation of the womb. He would suggest for the terms "arterio-sclerotic" retinitis and "renal" or "albuminuric" retinitis the substitution of the terms "chronic" and "acute," "late" and "early," or "minimal" and "maximal toxic" retinitis, leaving for the future the investigation of the nature of the toxin concerned.

Mr. FOSTER MOORE continued the discussion by dealing with the

Retinitis of Arterio-Sclerosis.

He supported the view that in some cases of arterio-sclerosis a distinctive form of retinitis was developed. He would endeavour to establish three propositions: 1. That the ophthalmoscopic appearances of the condition are in a large measure distinctive as compared with renal retinitis. 2. That the retinal exudates are developed as the result of local vascular disease of the retina. 3. That as regards length of life and manner of death, this ophthalmoscopic condition implies a prospect which is in sharp contrast with that conveyed by renal retinitis. He had collected data from 47 cases which he had had in some cases under observation for many years. These he had tabulated, giving the date when the patient was first seen, the average of a number of readings of the systolic blood pressure, details with regard to the retinitis, the ultimate history of the patient extending over a number of years or the time of his death, and, in the latter case, the cause of death.

1. In the majority of cases of arterio-sclerosis the retinal arteries shared in the disease to such a degree that the condition in them was recognisable on ophthalmoscopic examination, and, further, as the general disease progressed, so the disease of the retinal vessels became more marked until, in some cases, exudates were developed in the retinal tissues. He thought these were due to the thickening of the coats of the arteries and to their diminished lumen, leading to impaired circulation in the tissues. He was of opinion that the local pressure in the retinal arteries in these cases was less than the normal, though the pressure in the large arteries was greatly raised.[1]

Ophthalmoscopic Appearances.—The chief points in which these differed from those of renal retinitis were the character and distribution of the exudate, and the changes it underwent, the frequency with which it was unilateral, its association with severe retinal vascular disease, the absence of œdema of the retina, so that retinal detachments seldom if ever occurred, and the absence of cotton-wool patches. He then quoted from Gunn's original paper on the ophthalmoscopic evidences of arterio-sclerosis.

"In the most advanced the lines of the folds which radiate from the fovea centralis, due to the œdema, are sometimes eventually marked out by the deposit of white spots of degenerated effusion, so that we get the ophthalmoscopic appearances diagnostic of so-called albuminuric or renal retinitis, though in the variety now under consideration the condition may exist only in one eye and may not be accompanied by albuminuria."[2]

Histology.—As these cases were followed as out-patients, Mr. Moore had only obtained one specimen for histological examination. As far as general histological structure went it was similar to that of the exudate of "renal retinitis," but there was no histological evidence of œdema and no fat-containing phagocytic cells as might be seen in renal cases.

2. It was sometimes possible to watch in an individual exudate become superadded in the course of some years when at first vascular disease only was present. He quoted the case of one patient who had been observed periodically from 1908. For the first three years she had retinal vascular disease only; she then developed retinitis, and this persisted more or less unchanged for eight years and seven months. In May, 1918, she had a stroke and her blood pressure was 260 mm. In considering the blood pressure of the 47 cases studied, it was found that the average systolic pressure of those without retinitis was 211 mm., and of those with retinitis 222 mm. As regards the systolic blood pressure, the incidence of death, and the frequency of gross vascular cerebral lesions, the second group (those with retinitis) manifested a higher degree of disease than the first, so that one might assert that it was in the more advanced cases of arterio-sclerosis that retinitis was developed.

3. Belt[3] found that of 419 patients 94 per cent. died within two years, and Miles Miley[4] found in 45 cases that the average duration of life after the discovery of retinitis was four months. In the cases now under consideration the prognosis was less grave; thus of 28 of Mr. Moore's patients, who were known to have died, the average length of life after the discovery of the retinitis was two years and eight months, whereas in the renal cases it was four months only. The number of cases of renal retinitis who die in uræmia was undoubtedly considerable, but of the present cases there were three only who died of nephritis or uræmia. Of the 28 who were known to have died, 14 died of vascular cerebral lesion.

Mr. Moore, in conclusion, suggested: (1) In a proportion of cases of general arterio-sclerosis, as the disease of the retinal vessels increased, exudates formed in the retinal tissues which were probably dependent upon the local vascular disease; (2) that the ophthalmoscopic appearances resulting were in considerable measure distinctive; (3) that the prognosis implied by this form of retinitis as to length of life was quite uncertain, but might extend to several or even many years, and that it differed greatly from renal retinitis in this respect; (4) that a large number of these patients died of a gross vascular cerebral lesion, according to the present investigation 50 per cent.; and (5) that the condition called for a separate recognition, and that the term "arterio-sclerotic retinitis" seems appropriate.

Discussion.

Mr. P. BARDSLEY agreed with Dr. Shaw as to the toxic origin of retinitis and sclerosis. He also agreed that Mr. Moore's picture of arterio-sclerotic retinitis was correct, but thought that the picture only applied to cases of great chronicity. The retinitis depended on the acuteness of the disease producing a sclerosis. If the toxin were severe, then the picture was indistinguishable from that of the so-called renal retinitis. The classical changes in the latter were: (1) the retinal œdema producing a macular star; (2) fatty spots; (3) hæmorrhages; (4) high-pressure signs in the vessels. All of these signs might be present without albuminuria in cases of increased intracranial pressure, advanced arterio-sclerosis, and many toxæmias. He had, for example,

[1] Trans. Ophth. Soc., U.K., 1916, xxxvi., p. 319.

[2] Ibid., 1898, xviii., p. 361.

[3] Jour. Amer. Med. Assoc., 1895, p. 734.

[4] Trans. Ophth. Soc., U.K., 1888, viii., p. 134.

seen cases of syphilitic and post-influenzal retinitis, and two monocular cases due to pyorrhœa, with all the classical signs. Since these retinal signs occurred so frequently without albuminuria, he thought the term "renal retinitis" misleading. Albuminuria could only be detected by urinanalysis. But the ophthalmoscope could inform us that there was a toxæmia causing high blood pressure and vascular inflammation, and further whether this inflammation was accompanied or not by sclerotic changes in the vessel walls. The sclerosis was of the utmost importance, as the prognosis depended upon it; for cases showing advanced sclerosis had only a few months or weeks to live, while those showing little or no sclerosis might make a fair recovery if the poison could be eliminated and the blood pressure reduced. If the toxin were not acute enough to produce more than a mild retinitis the prognosis was not so grave even with advanced sclerosis. He regarded sclerosis as the index of the chronicity of the poison rather than of its acuteness. He disagreed, however, with Dr. Shaw's statement that silver or copper wire appearance of the retinal arteries was produced by thickening of the middle coat, for this appearance might be produced in a few days by severe influenza, and disappear in a few weeks. He thought it was possible to distinguish between the signs of high blood pressure and the signs of arterio-sclerotic changes. It was even possible to detect sclerosis before the occurrence of high blood pressure, and thus to be able to forewarn the physician and the patient. He gave an instance of this in a doctor's wife, aged 31, who had one child, aged 11. After examining her eyes for refraction he wrote to the husband that in his opinion it would be unwise to risk a further pregnancy as her vessels showed considerable sclerosis. A well-known physician, who found her blood pressure below 130 mm., disagreed, and a little later she became pregnant. At seven months albuminuria and eclampsia set in. Labour was induced. The child died shortly after birth, and the mother took fully a year to recover her health.

Mr. PERCY ADAMS said that "renal" retinitis appeared now to be very rare in the district where he worked, although it was fairly common some years back. Last week he had examined a patient with interstitial nephritis, but the condition was arterio-sclerotic retinitis in one eye, and thickened arteries and a hæmorrhage in the other. In contrast to this he had seen a man with a very septic wound of the hip-joint, and a normal urine on repeated examination except for a trace of albumin at first. This patient had a typical "renal" retinitis—slight papillœdema, soft cotton-wool patches and hæmorrhages, with a stellate figure at each macula. After amputation of the limb and free drainage he recovered his health and sight and was still alive. Mr. Adams thought, therefore, that toxæmia could of itself cause "renal" retinitis, without involvement of the kidney. He quite agreed with Mr. Moore that there was a distinctive condition of the fundus oculi which he had named arterio-sclerotic retinitis, but he (Mr. Adams) thought that Dr. Shaw's explanation was likely to prove the correct one. Still as regards the time these patients lived, his experience was similar to Mr. Moore's. He considered a conjoint research by a physician and an ophthalmic surgeon should be made to compare the length of life of those arterio-sclerotic patients who exhibited retinitis with that of those in whom retinitis was not present.

Dr. ARTHUR ELLIS said that he had investigated 19 cases both as regards renal function, the evidence of vascular disease and retinitis, clinically during life and in the post-mortem room. The ophthalmoscopic examination was conducted in most cases by a physician, and the appearances noted were œdema, hæmorrhage, and exudate. The renal function tests employed were the estimation of blood-urea, the phenol-sulphone-phthalein test, the urea-concentration test, and the fixation of specific gravity of the urine. The tabulated results of this investigation showed that the cases fell into two groups: (*a*) those in which there was evidence of gross renal disease; and (*b*) those where vascular changes were most marked, while the renal function was fair. Both groups exhibited a high blood pressure. The average age of the latter (the vascular) group was 10 years higher than that of the renal group. The post-mortem findings confirmed the opinion that the two groups were distinct; it was possible that the ophthalmoscopic appearances might have shown distinguishing features to an ophthalmic surgeon.

Dr. C. O. HAWTHORNE thought that the terms "renal," "arterio-sclerotic," and "toxic" retinitis all tended to produce an atmosphere of proof of what was at present merely speculative and theoretical. These adjectives should therefore be abolished. He suggested "retinitis with (or without) renal disease," according as there was (or was not) evidence of the latter.

Dr. J. F. GASKELL welcomed the clear account given by Mr. Moore of the various types of retinitis, since they seemed to agree with the views he held on renal and vascular disease. He thought that two entirely different conditions were concerned, one being primarily disease of the kidney, and the other primarily disease of the vascular system as a whole. But owing to the interdependence of these two systems a composite picture was ultimately formed in which both systems were affected. Dealing with the first condition, he said that the whole of the kidney substance, glomeruli, tubules, and interstitial tissue, including intrinsic blood-vessels of the organ, was acutely inflamed. This trouble was commonest in children, but was comparatively frequent in the late war. As a result the kidney was permanently damaged. It passed through a subacute stage, and finally reached the chronic or sclerotic stage in which scar tissue replaced the destroyed glomeruli and tubules, and the organ contracted and shrank, becoming tough, whitish, and granular. There were various stages of diffuse nephritis with which were associated those forms of retinitis called albuminuric or renal retinitis. Cardiac hypertrophy and increased blood pressure in these cases resulted from the call of the damaged kidney for an increased blood-supply. On the other hand, when the primary disease was cardio-vascular, the brain and kidney were always affected by degenerative changes in the small arterioles; but post mortem, even in advanced cases of kidney involvement, the amount of functioning tissue was still much greater than in cases of true nephritis in the sclerotic stage. The cause of death in such cases was never true uræmia, but death might occur with similar signs, such as Cheyne-Stokes breathing, from a local cerebral anæmia due to disease of the arterioles, especially in the medulla. It was difficult to say whether the arterio-sclerotic changes of the arterioles were secondary to the high blood pressure, or whether the high blood pressure was a response to obstruction to the peripheral circulation through essential organs.

The discussion being unfinished, the PRESIDENT announced that it would be continued at the meeting of the Section of Ophthalmology on Dec. 8th.

SECTION OF OTOLOGY.

EXHIBITION OF CASES AND SPECIMENS.

A MEETING of this section of the Royal Society of Medicine was held on Nov. 17th, when, owing to the continued illness of Mr. Hunter Tod, the President, the chair was occupied by Sir CHARLES BALLANCE.

Otosclerosis with Unusual Symptoms.

Dr. ALBERT A. GRAY (Glasgow) read a paper on this subject, based upon four cases in the hope that it might lead to a better understanding of otosclerosis. Four of his patients who had otosclerosis heard better under circumstances in which the otologist would expect them to hear worse. In this paper he excluded consideration of the condition known as Paracusis willisii. The first patient, a woman,

aged 44, began to be deaf when she was 30. She had noises in the ears, and paracusis was very noticeable. Inflation by the catheter produced little or no improvement in either ear. There was no symptom of inner ear deafness, and no history of deafness in the family. The patient said that when she had a cold in the head she could hear much better than at other times, and her friends found that when she had a cold she could hear the ordinary spoken voice. The second case was also that of a woman, unmarried, aged 41, in whom deafness began in her twenty-fifth year. Tinnitus was present in the left ear. Paracusis willisii was present also, and she had definite otosclerosis. She had hay fever every year, and during its height her hearing greatly improved, but relapsed when the fever passed off. An ordinary cold did not improve the hearing so much as did the hay fever. In the other two of the four cases the improvement of the hearing was only momentary; these also had otosclerosis. In the first of this second pair both membranes looked normal. Paracusis willisii was a feature of the case. For years she had suffered from deafness, and one hot evening she could not hear any part of the conversation. She stood by an open window to get cool, and was immediately conscious of greatly improved hearing, for she could hear all the conversation. The improvement, however, only lasted two minutes. The last patient was a woman, aged 34, who had fleeting tinnitus, and paracusis willisii markedly. Both tympanic membranes were normal in appearance, and no family history of deafness could be ascertained. Her deafness began at the age of 22, and was of gradual onset. She was a strict teetotaller. After a long motor drive in hot weather she became faint, and was induced to take a dessert-spoonful of brandy. Hearing then suddenly returned, and she could hear conversation very distinctly. But she relapsed in that regard in two or three minutes. She tried brandy again the next day, when she was not feeling exhausted, but it had no effect on her hearing. The causation of paracusis had been discussed many times, but otologists were not yet agreed about it. It used to be taught that it was on account of movements of the stapes and ossicles enabling vibrations of smaller amplitude to reach the labyrinth; but he was sceptical about that in the light of these cases, as in them the improvement of hearing occurred when there was nothing to cause movements of the stapes or ossicles. In two of the cases there were unwonted stimuli—caused by the cold air and the unaccustomed brandy respectively—when the general condition had been lowered. He proposed to call the condition otosclerosis paradoxus.

Mr. J. F. O'MALLEY said he had sometimes thought a change in the perilymph, chiefly in regard to its quantity, might have something to do with the causation of paracusis. Certain peculiarities in some of these cases led to the idea that there were changes in the labyrinthine fluids.—Mr. RICHARD LAKE suggested that in some cases the improved hearing was really toxic, that a toxin developed during an illness, or even catarrh, acted as a stimulus to hearing. He had a very severe case of post-influenzal pneumonia in a deaf girl, and during the gravest period of her illness she heard better than she ever remembered before. Probably the toxin of the illness affected not only nerve-endings, but also the central nervous system.—Mr. M. E. VLASTO also related the case of a woman who heard better if she had a cold. He would now obtain and report further particulars of that case. He had heard of a patient with chronic otitis media catarrhalis hearing better during a bad period in the otitis.—Sir JAMES DUNDAS-GRANT spoke of the device of Sir Robert Woods, who injected tincture of iodine through the tympanic membrane of otosclerosis patients, thus enabling them to hear better for a time. It seemed to show that increased vascularity of the part was a factor in the improvement.—Mr. F. J. CLEMINSON referred to the benefit in hearing afforded to people with otosclerosis from the inhalation of amyl nitrite, also after suction carried out with a Siegel's speculum.—Mr. W. M. MOLLISON felt sure that increased peripheral vascularity produced an effect on the hearing. Women's hearing became worse after each parturition, but he had been told they heard better during the later stages of gestation, when the general circulation was much enhanced. The more vigorous circulation might also be the cause when a severe cold was being experienced. And when pilocarpine was given otosclerosis improved. One patient showed this repeatedly, relapsing each time when the effect of the pilocarpine had worn off.—Mr. G. J. JENKINS thought some of the symptoms of otosclerosis were due to changes in the fluid; chloroform and a hot-water douche enabled these patients to hear better. The fact that they could also hear better during yawning might be due to the effect on the labyrinthine fluid produced by the pulling action of the facial muscles.

Dr. GRAY replied. He said he believed otosclerosis to be a disease of the whole organ of hearing, from the auricle to the cortex. Mr. Lake's suggestion as to a toxin causing stimulation was very interesting. Sir Robert Woods's injection of iodine probably caused a reflex stimulation of the blood-vessels in the labyrinth, possibly followed by vascular dilatation there. In the case of the suction, mentioned by Mr. Cleminson, there might have been stimulation of the nerve-endings in the tympanic membrane, and coincident dilatation of blood-vessels in the labyrinth.

The Disease of Not Listening.

Mr. T. B. LAYTON contributed a suggestive paper with the title the Disease of Not Listening, the Malady of Not Marking (*Henry IV.*, Pt. II., act i., scene 5). He said the diagnosis of malingering should go through three stages. In the first, the examiner realised that the examinee's behaviour was unusual; in the second, he believed that there was an intentional desire on the part of the examinee to make the examiner believe that his hearing was defective in either one ear or both. The third stage should always be that of making a written report, especially in view of the possibility of the case coming into a court of law. No one should be called a malingerer unless and until he made certain responses to tests, and an opinion must be supported by evidence. An otological examination gave no criteria for distinguishing functional from organic deafness. Mr. Layton thought a classification of types could be based upon a study of attention in the examinee. The sufferer from shell-shock seemed to lack both interest and imagination, and from this lethargy he could be aroused for only a short time, and during that time his hearing appeared to be normal. In a second type, the unconscious malingerer who believed he could not hear, no help was given to the examiner, and indeed he seemed to be against the examiner. The division between him and the actual malingerer was only a narrow one. The malingerer was definitely hostile to the examiner and was on the alert to give particular answers to deceive. A large part of loss of hearing in the deaf resulted, he thought, from a cessation of interest in external things. If so, one should aim to help the patient, even though the deafness failed one. The report from a teacher that a child was deaf should not be accepted without testing; in many cases it meant simply that the teacher was unable to interest the child, and the child went off into day-dreams, as Keats admitted he did when a student at Guy's.

During the discussion the matter was further elaborated, and Mr. LAYTON replied.

CAMBRIDGE UNIVERSITY MEDICAL SOCIETY.

A MEETING of the Cambridge University Medical Society was held on Nov. 29th, with Mr. E. S. FELLOWS-FARROW, the President, in the chair, when Sir ALFRED MOND gave an address on the

Relation of the State to Medical Science.

He pointed out that from very early times evidence of State interest in and partial control of the health of the race might be found; as examples he mentioned the Mosaic laws and Greek legislation.

Nowadays great importance was attached to public hygiene. Bad environment and conditions of living led to low racial vitality and decreased resistance to disease. A striking example of the result of such conditions was that of Russia since the Revolution. Such a flood of epidemic was started that at one time it threatened to overwhelm all Europe. If there had not been such vast steps in the science of hygiene the war would have been stopped in a short time by the devastating effects of epidemics, which up till comparatively modern times took greater toll of lives in wars than the fighting itself. Great Britain in some ways was protected by the fact that it is an island, but nevertheless there was a vast amount of work to be done in improving our national health and hygiene. The Ministry of Health was doing a great service, but the lack of public scientific knowledge was a drawback to its activities. When it was realised that money spent on research was money saved, while that spent on treating patients was money spent once and for all, we should have made a long step towards the best possible conditions of national health.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.

EXHIBITION OF CASES AND SPECIMENS.

A MEETING of this Society was held at the Royal Devon and Exeter Hospital on Nov. 23rd, Dr. G. P. D. HAWKER, the President, being in the chair.

Dr. W. GORDON showed specimen of mediastinal new growth (sarcoma) in which there was involvement of the heart.

Mr. B. DYBALL showed an appendix, the seat of mucocele.

Mr. NORMAN LOCK showed a goitre which had caused pressure on the trachea and was found adherent thereto.

Mr. DYBALL showed radiograms illustrating (1) congenital deficiency of femur, (2) separation of symphysis pubis, (3) plating of old fracture of leg.

Mr. A. L. CANDLER and Dr. MILLER MUIR showed cases of (1) sarcoma of femur (inoperable) under treatment with X ray, and (2) sarcoma of neck, apparently cured by one large dose of X ray.

Mr. R. A. WORTHINGTON showed with Dr. MUIR cases of (1) sarcoma of tonsil with enlarged submaxillary lymphatic gland which had subsided with all appearance of cure after treatment with radium; and (2) endothelioma of palate where wide sweeping removal had been successfully accomplished with the galvano-écraseur.

Dr. GORDON showed a man with paralysis of the long thoracic nerve in which radiogram suggested an abnormal transverse process of the seventh cervical vertebra as a possible cause of the condition. Dr. Gordon also reported upon two cases of gastric ulcer.

Dr. F. A. ROPER showed: 1. Boy with rat-bite fever together with temperature chart illustrating the typical relapsing character of the fever. Up to the present the spirochæte had not been found in films prepared from the peripheral blood. The case was improving under treatment with injections of novarsenobillon. 2. Young married woman in whom there was ascites with a hard enlargement of the liver. There was a history of a stillborn birth and a miscarriage. Wassermann had been repeatedly negative but no alternative causal origin could be assigned with any certainty.

Mr. DYBALL showed with Dr. C. N. LOVELY a case of ulcerative necrosis of the face following upon an injury. The extensive sloughing had destroyed the whole framework of the nose and caused considerable scarring of the skin for some distance on either side of the disfigured and flattened-out nostrils. The interest of the case lay in the fact that, in spite of any known family history, the boy gave a positive Wassermann reaction and responded to treatment. The case was also of importance from the medico-legal aspect, damages having been claimed in connexion with the accident.

Mr. CANDLER showed a case of ulcerative necrosis of the hand with loss of little finger together with its metacarpal. The infective agency was very obscure and the disease had showed itself most intractable to treatment, but arrest had followed promptly on injections of antidiphtheritic serum.

Dr. G. L. THORNTON showed a man, aged 35, ex-soldier, in whom V.D.H. had first been noted on service. The heart was enlarged moderately right and left with good compensation. The peculiarity of this case was that in the aortic area there were heard well-intervalled systolic and diastolic murmurs, whilst in the second and third left interspaces for one inch from sternal margin there was a continuous rumble audible during the whole of the cardiac cycle. The separated murmurs could be distinguished at the apex. The aortic second sound was heard at the base and in the neck, and the pulse was not true Corrigan, although pulsation could be seen in the brachials and carotids.

In discussing the case Dr. GORDON considered that the findings as a whole, coupled with the quality of the murmurs, were consistent with a patent ductus arteriosus rather than with aortic regurgitation.

YORKSHIRE TUBERCULOSIS SOCIETY.

A MEETING of this society was held on Nov. 25th at the Central Tuberculosis Dispensary, Sheffield, Dr. J. RENNIE, the President, being in the chair.

Dr. R. HALLAM lectured on the

Use of X Rays in the Diagnosis of Chest Diseases,

defining a satisfactory apparatus as one with an exposure of at most one-tenth second—soon the routine would be one-hundredth—and with which assistance could be had from a "maker's technician." Appreciation of the wide variability of the normal chest was necessary, especially in juvenile patients; he agreed with the radiological report on normal appearances recently issued in America. As to the relative value of clinical and of radiographical examination, most often the two agreed. When they did not, at the tuberculosis dispensary it was the practice to review the case after a lapse of time. With the X ray (though one should remember that it magnified lesions) there were more extensive findings: but in early phthisis clinical methods might beat the skiagram. Diagnosis of active from passive disease was often impossible radiologically. Several cases of primary malignant disease had been encountered at the dispensary during the last 18 months. Such showed uniform shadows often arising in the mediastinum. It was necessary sometimes to screen the patient and tilt, in order to distinguish from fluid In suspected syphilis of lung, the lesion showed little fibrosis, but ? gummatous deposit—a heavy stellate shadow situated in the middle lobe on the right side. One such shadow increased much after a 606 injection, which produced strong reaction, and finally waned and grew less dense. In bronchiectasis it was often surprising how little was revealed. Pneumoconiosis gave larger shadows in steel-grinders than in silica-workers. A typical "snowstorm" appearance might fail to show with inferior apparatus. The superadding of tuberculosis to silicosis was often impossible to determine.

Drs. BARNES, FERNANDEZ, KEATING, MARK, RIVERS, and the PRESIDENT spoke. It was emphasised that whereas post-mortem experiments quoted in text-books showed that lesions of less than 4 c.cm. bulk could be missed by the X rays, yet the Pensions Ministry often pronounced patients non-tuberculous, against the tuberculosis officer's report, mainly on the strength of a negative X ray report. It was agreed that the appearance of much local fibrosis by no means characterised pulmonary syphilis, and that it would be well to resort more often to radiological examination with a view to excluding pulmonary cancer.

ROYAL ACADEMY OF MEDICINE IN IRELAND: MEDICAL SECTION.

A MEETING of this section was held on Nov. 24th, with Dr. T. G. MOORHEAD, the President, in the chair.

The PRESIDENT delivered a short address on the Principles of Therapeutics.

Sir J. W. MOORE read papers on cases of Xanthoma Diabeticorum and Myelogenous Leukæmia. Of these cases the first was an example of intractable diabetes mellitus in a girl of 14 years. The disease had lasted nine months when she came under observation on Feb. 20th last. Occasional attacks of acidosis occurred, but yielded to treatment. A persistently low body temperature was a marked feature. But it was not until August, 1922, that the condition which lent unusual interest to the case supervened. On the 12th of that month the girl's mother reported that a "rash" had broken out on her daughter's elbows and knees. This consisted of crops of papules on the extensor aspect of the elbows and knees, some of which papules showed a yellow coloration. A diagnosis of xanthoma diabeticorum was made. A photograph taken at the time shows the distribution of the "rash," and also the extreme emaciation of the patient. Subsequently, similar papules developed in other regions of the arms and legs. Many of them became unhealthy—ulcerating and crusting in such a way as to suggest degeneration of some secondary infection. Death ensued on Oct. 8th.

The second case was one of myelogenous leukæmia in a boy aged 11 years. His illness began about two months before admission, but acute symptoms, such as violent pain in the front and the left side of the abdomen, and transitory feverishness, set in only a fortnight before he came into hospital. Extreme prominence of the abdomen and lower part of the left chest proved to be caused by an immense spleen—smooth and firm. The differential blood count showed red cells, 3,200,000; hæmoglobin, 50 per cent.; white cells, 400,000 per c.mm.; myelocytes and large lymphoid cells, polymorphs, mast cells, and normoblasts also present. This was on Oct. 9th, 1922. The treatment consisted of the internal administration of liquor arsenicalis in three-minim doses, at first twice and later thrice daily, in galvanism to the abdomen, and afterwards of X ray exposures. On Nov. 3rd the leucocyte count had fallen to 300,000 per c.mm., and the spleen had shrunk considerably. This was before the first X ray sitting, which was on Nov. 13th. On the 23rd the blood count showed that the white cells had fallen to 185,000, a diminution of about 38 per cent.

Dr. A. R. PARSONS said that Sir J. Moore had told them nothing about the output of uric acid in myelogenous leukæmia. He thought it was a great pity that in Dublin they had no means of carrying out detailed metabolic investigations in cases like this. He would like to know what became of the large number of white cells which disappeared. He had found in his cases that there was no difference in the output of uric acid, coincident with a fall in the number of white cells in the blood.

Dr. HARVEY described a case of

Precocious Sexual Development

which had recently been under his care in the Adelaide Hospital. On admission the patient, a girl of 2½ years, had been having regular menstrual periods for some nine months. She was a small thin child of apparently normal mental development for her age, but having well-developed breasts, a tense and swollen abdomen, a coarse growth of dark hair on the pubes, and external genitalia of a markedly adult type. The abdominal swelling was due to a large tumour on the left side, involving the kidney and suprarenal, and extending across the abdomen. The temperature was abnormal; pulse, 100–120; bowels confined; urine normal: blood pressure, 130 S., 85 D.; r.b.c., 6,000,000; w.b.c., 5000 per c.mm.; Hb, 75 per cent.; colour index, 0·7; Wassermann, negative; $\Sigma = 0$. Family history healthy. Patient herself was a full-term child, but weakly from birth. X ray examination showed no abnormality in the bony development. Mr. Gunn and Dr. Madill operated, but found the tumour incapable of resection. The child lived for some five weeks more and died on Oct. 17th, having wasted to a mere skeleton. She did not seem to have been in pain, and her only symptom was a persistent craving for fluid. Prof. O'Sullivan made the post-mortem examination and found the body and limbs wasted to the last degree. The abdomen was greatly distended. Breasts measured 1¾ in. in diameter and were elevated above the surface. Nipples 9/16 in. in diameter. The tumour occupied the greater part of the abdominal space and weighed 6 lb. 1 oz. It was 10¼ in. in length by 6 in. in breadth. On the right lower side was a cystic lobule 3¼ by 3¼ in. On section it was composed of a brain-like substance, white in colour, with patches of canary yellow and streaks of green. It was loosely divided into lobules and was very vascular. The attached lobule was a cavity filled with a clear fluid mixed with blood. The smooth and shiny walls were partly tumour and partly connective tissue. In places in the brain-like mass kidney substance could be recognised. The thymus was practically non-existent, and the left ovary was cystic, while the right kidney showed hypertrophy. Other organs appeared normal, but were reserved for careful examination, microscopic and otherwise. A preliminary microscopic examination of the tumour showed it to be a very cellular and vascular sarcoma.

The PRESIDENT asked if the uterus and breasts were infantile, or if they were properly developed. Dr. Gordon Holmes had reported a case of a girl who up to the age of 16 was abnormal. At 17 a tumour developed in the abdomen; coincident with this several secondary male characteristics appeared. The tumour was removed, the male characteristics disappeared, and the female ones again appeared.

Prof. PRINGLE said that it was an extremely interesting case, and it would be very important to know whether adrenalin was found in the tumour or not. If adrenalin was found in any great quantity it would help greatly in diagnosing the case.

Dr. W. M. CROFTON said that suprarenal tumours were practically always associated with the male.

Dr. G. E. NESBITT asked Dr. Harvey if he could tell them anything about the actual condition of the ovary, or any sections of it, in this case.

Dr. HARVEY, in reply, said that he had heard that adrenalin had been found, but he was not certain. The breasts were being investigated. The whole report must be looked upon as a preliminary one.

Urea-concentration Test Preceding Prostatectomy.—In the report of Sir John Thomson Walker's opening paper on the Problems of Prostatectomy at the Harveian Society (THE LANCET, Nov. 25th, p. 1121), the sentence on blood-urea concentration should run "a figure of 40 to 50 mg. per *100* c.cm. was not to be regarded as excessive."

VICTORIA HOSPITAL FOR CHILDREN, CHELSEA.—The Prince of Wales, President of the hospital, recently opened the new Princess Mary Home and Physiotherapy Department at 29, Tate-street, adjoining the hospital. He expressed his pleasure at signs of improvement in the financial position of the hospital, and acknowledged the great help given by King Edward's Hospital Fund, and by the work of the hon. treasurer, Mr. A. Farquhar. The house contains provision for 15 private patients—i.e., provides a nursing home for children whose relatives wish them to have the advantages of one of the leading children's hospitals in London. One of the wards will be available forthwith. Boys will be eligible for admission up to 12 and girls up to 14 years of age. The terms for the nursing home are: (1) One guinea per day for each bed, or 5 guineas for a full week; (2) an additional charge of a guinea for the use of the fully-equipped theatre if an operation is required; (3) any doctor or parent may apply for the admission of a case, but, when admitted, the patient will be under the care of a member of the hospital medical staff (acting and consulting), and the question of payment for his services will be a matter between him and the parents.

Reviews and Notices of Books.

SOME MEDICAL ASPECTS OF OLD AGE.

By Sir HUMPHRY ROLLESTON, K.C.B. London: Macmillan and Co. 1922. With nine plates. Pp. 170. 6s.

THIS expansion of the Linacre Lecture given in St. John's College in Cambridge in 1922 is just the scholarly fragment of pleasing erudition that we should expect from the President of the Royal College of Physicians of London. Without attempting anything like a complete account of old age and its many problems, he reviews some ancient and modern medical aspects of the subject, ranging from an analysis of the twelfth chapter of Ecclesiastes to a consideration of last year's work by Carrel and Brailsford Robertson. Like all good books, this small volume suggests as many questions as it answers. One thing is constantly in evidence—that the serious study of senescence has received an extraordinarily small amount of attention, perhaps because the young, who have the capacity to do it, are not often interested and the old are likely to think it not worth while. What can be achieved in our various retreats for the aged has recently been shown in the valuable studies of Drs. R. J. C. Thompson and R. E. Todd [1] among the pensioners in the Royal Hospital at Chelsea, and there is need of much further work of this kind.

The author accepts 100 as being about the time when physiological old age, uncomplicated by pathological processes, may be expected to bring life to an end, and he attributes the considerable increase in the mean expectation of life at birth which has occurred in the last 50 years to greater success in evading disease rather than to our having any greater inherent capacity for life than our ancestors. It is, however, a little anthropocentric to call this the "natural" duration of life or to stress the epithet in "physiological" senescence. For each organism the natural world contains other organisms which are harmful and destructive, and the "natural" span of life of any live thing depends on the balance between the will to live and these opposing agencies. For man one may assume that natural life would generally come to an end when his physical powers began ever so little to fail and when the loss of elasticity in the lungs, the dying of the aorta, the onset of glomerular sclerosis in the kidneys and similar changes give anatomical evidence of regression; in other words, at about 35. And it is the progressive achievement of man that he has made himself more and more unnatural in his dissociation from the economy of the live world in general. At present he has about doubled his natural life; whether by further luck or more cunning he will achieve a humorist's ideal of 300 remains to be seen; probability seems much against it. Another point of some moment arises in connexion with the attempt to analyse the physical changes in old age and to correlate structural characters with longevity. At first sight simple, the problem is really difficult to get at since when we examine the aged we are dealing with a population which has been selected by one of the factors which we are considering. If, for example, a number of old people are lighter or have larger hearts, either absolutely or relatively to their body-weights, or are of more cheerful spirits than a number of middle-aged persons, do they have these qualities because they are old or have they survived to an unusual age because of these peculiarities? The question can be answered only by comparable data about those who, originally belonging to the same series, failed to survive or, more practically, by the mass information of individual histories of sick and healthy people which is one of the greatest needs for medical progress in many directions. And if we have "fresh air, meagre fare, freedom from care," we may live to see it satisfied.

[1] THE LANCET, 1922, i., 874; ii., 503.

MEDICINE AND DENTISTRY.

Lehrbuch der Grenzgebiete der Medicin und Zahnheilkunde. Second edition. Edited by Dr. JULIUS MISCH. Leipzig: F. C. W. Vogel. 1922. In two volumes. Vol. I.: Pp. 671, 237 illustrations. Vol. II.: Pp. 672, 351 illustrations. M.1425.

THESE handsomely produced volumes deal with the border-line between medicine and dentistry and contain a large amount of interesting information. As may be judged from the size of the book, the term "border-line" is interpreted in a wide sense, the "line" including not only those diseases in which dental conditions may stand in a causal relationship, but also all diseases in which there are oral symptoms.

The plan of the book is ingenious. It is divided into a series of sections on internal medicine, neurology, and diseases of children, written by experts in those branches. The subjects are dealt with from the general aspect, but always with a clear idea of any dental significance which they may present. The knowledge of dental conditions possessed by the medical contributors to the book is encouragingly full. To bring out the dental aspects of the various diseases into greater clearness, comments of varying length by the editor, Dr. Misch, are interspersed throughout the text, in such a way as to be easily distinguishable from the statements of the other writers. It will be seen from this that these volumes have no counterpart in this country, though they might well be imitated. Of their value to dentists there can be no doubt, and it is equally certain that few doctors could peruse these pages without profit. For the dentist to be able to extract the full value out of the work a considerable knowledge of general medicine is necessary, so that it is better adapted to the graduate than to the undergraduate.

The dental part, which is by Dr. Misch, is not limited to well-ascertained facts but is a compendium of a great number of views which have been put forward by different writers, sometimes highly speculative and still awaiting confirmation. It is stated that in influenza toothache is a frequent symptom; the tooth pulp is often inflamed, and Pfeiffer's bacillus has been isolated from it. Misch infers that this disease has a specific action on the pulp. A good account of the dental stigmata of congenital syphilis is given, and the various views which have been put forward at different times to account for the presence of "Hutchinson" teeth are fully quoted. Misch does not agree with Pasini that they are due to local action of the syphilitic virus (the view also held by Jonathan Hutchinson), and considers that they are the result of a general trophic disturbance possibly reinforced by local infection of a secondary character. The latest view of Kranz is also given, that these teeth are caused by a syphilitic disturbance of the ductless glands. The section on hæmophilia and allied conditions is good; according to Wrobel, the loss of teeth, either naturally or by extraction, is the commonest cause of death in hæmophiliacs. Among various forms of treatment, remedial or prophylactic, Misch recommends the local application of plugs dipped in 10 or 20 per cent. of gelatin; the subcutaneous injection of hydrastinum, a preparation of Bayer, is said to be useful in treating dental hæmorrhage. As a prophylactic measure X ray applications to the spleen are stated to be useful. The section on diseases of the ductless glands and their possible relation to the teeth is treated with caution. The work of R. McCarrison on the thyroid is not mentioned. In the account of diabetes it is stated that stomatitis is an early symptom; indeed, Misch says that if a well-fitting denture suddenly begins to hurt without any obvious cause, the possibility of diabetes should be considered and the urine tested. Stomatitis is also said to occur as an early sign in leukæmia.

The volumes are profusely illustrated and the technical excellence of the drawings, both plain and coloured, deserves especial praise. Dr. Misch and his collaborators have made a valuable contribution to dental and medical literature.

CHEMISTRY OF PLANT PRODUCTS.

An Introduction to the Chemistry of Plant Products. Vol. II., Metabolic Processes. By PAUL HAAS, D.Sc., Ph.D., Reader in Plant Chemistry in the University of London, University College; and T. G. HILL, A.R.C.S., F.L.S., Reader in Vegetable Physiology in the University of London, University College. London: Longmans, Green and Co. 1922. Pp. 140. 7*s.* 6*d.*

THE subject, as indicated by the title, deals with the chemistry of plants in relation to their physiology. The chief problems dealt with are the synthesis in the plant tissues of fats, carbohydrates, and proteins, respiration, and growth. Much of the subject-matter is of interest from the point of view of general biochemistry—e.g., the parts dealing with the synthesis of fats and proteins, and especially those dealing with the oxidative processes. Hormones and vitamins also play their parts in the plant economy, and further stress the resemblance between plant and animal metabolism in certain of their aspects. The book is a welcome addition to the theoretical literature of general biochemistry, and its convenient bulk will make it useful to students reading for science degrees with honours in botany, or for those taking biological chemistry as a subsidiary subject. It is so well-written and thoroughly digested that it will also appeal to many who read widely on chemical lines, whether they are directly interested in biochemistry or not. We should be glad to have a volume dealing with general plant physiology in as clear a manner as this one deals with the biochemistry of plants.

PSYCHO-ANALYSIS.

Fundamental Conceptions of Psycho-analysis. By A. A. BRILL, Ph.B., M.D., Lecturer on Psycho-analysis and Abnormal Psychology, New York University. London: George Allen and Unwin. 1922. Pp. 344. 12*s.* 6*d.*

Dr. Brill, who is well known as a translator of Freud's works and an original writer on psycho-analysis, begins this book with a historical account of the development of psycho-analysis from the early "cathartic method" of Breuer and Freud, and then describes the nature and function of the neurotic symptom, the psychology of forgetting, and the psycho-pathology of every-day life; the last subject is illustrated by examples from his own experience and forms a most interesting chapter. Wit is analysed and explained as affording the opportunity of enjoying those primary pleasures, such as sexual exhibitionism or the hostile tendency, that civilisation and the higher education have found inacceptable. Dreams receive lengthy notice on the usual analytical lines, and a short chapter on fairy-tales ends with a comparison of ultra-modern art and the productions of the insane.

The author occasionally offends by facile dogmatism, as on p. 39, when he says that the sufferer from alcoholic insanity sees snakes "because of certain poisons in the nerves of the retina"; and again on p. 50, where we read, "If one forgets in any real sense of the word he has some organic brain trouble which can be diagnosed by a physician or a neurologist in about ten minutes." The explanation of insanity as the fulfilment of a wish may be correct, but its presentation on p. 38 makes the process seem far more simple than experience with the insane would teach; the case described appears to be a hysterical outbreak and not a psychosis in the usual sense of the word. A later chapter on common forms of insanity is redundant, since no attempt is made to bring the different forms into relation with psycho-analytical theory.

The author does not go deeply into theory, but his book gives, within its limits, a good general account of the subject. It holds a position half-way between a popular and a technical exposition and is suitable for those making a first acquaintance with the literature of psycho-analysis.

HUMAN PHYSIOLOGY.

A Text-Book for High Schools and Colleges. Third edition. By PERCY GOLDTHWAIT STILES, Assistant Professor of Physiology in Harvard University. London and Philadelphia: W. B. Saunders Company. 1922. Pp. 425. 12*s.*

TEACHERS of physiology in high schools, or for that matter, in the universities and medical schools too, often feel the need for a small text-book which, while suited to the requirements of beginners, is yet not too childish in outlook. Dr. Stiles has struck the right note in this excellent little volume, making a place for himself in the front rank of writers on physiology. In language easy to follow, yet correct in style, he deals with the very difficulties which every student new to the subject encounters, and in spite of the pains he takes to explain elementary points, it is surprising how much information the book holds. Anyone can, with diligence, produce an advanced text-book of the compilation type, but it needs sound knowledge of the subject to write a convincing elementary book on a broad and philosophic plan, likely to stimulate the reader to wish for more. We wish the author every success in future editions of this excellent manual.

TUBERCULIN TREATMENT.

Recherches sur le "principe curateur" contenu dans la tuberculine. By Prof. J. GABRILOVITCH. Paris: Masson et Cie. 1922. Pp. 112. Fr.5.

Prof. Gabrilovitch's book is a review of his experiences with a tuberculin (T.P.G.) detoxicated according to his methods, the principles of which he discusses. Considerable space is allotted to the records of 30 cases treated by the author's methods. The good results claimed would leave a more favourable impression had not similar claims already been made, but not substantiated, by many other advocates of special tuberculins. Possibly Prof. Gabrilovitch's tuberculin is superior to all the rest, but successive disappointments have bred not only scepticism but also impatience with the advocates of "improved" tuberculins. Such impatience is, of course, deplorable, for almost every great discovery or invention has had its forerunners whose failure to make good has barred the way to progress. Prof. Gabrilovitch is handicapped by the ill-starred efforts of uncritical enthusiasts whose capacity for auto-suggestion has been their undoing. Whether he deserves to be classed with his predecessors in this field or not remains to be seen. He puts his case well, and time will prove how far it is a good one.

ELECTROLOGIE ET RADIOLOGIE.

Third edition. By Dr. H. GUILLEMINOT, Professeur à la Faculté de Médecine, Chef des Travaux de Physique Biologique, Electro-Radiologiste des Hôpiteaux (Hôtel-Dieu). Paris: Masson et Cie. 1922. Pp. 642. Fr.40.

THE third edition of this book has been re-written and greatly enlarged so as to be really a new work. It is divided into three parts. The first, which occupies 318 pages, deals with physics and electro-technics. Each kind of electric current is considered in a separate chapter, each chapter being divided into sections dealing with the physics, mathematics, methods of production, application, and measurement. The indirect uses of electricity in medicine for the driving of motors and converters, for the generation of ozone, for the production of heat, light, and ultra-violet light, are described in detail. About one-third of the first part deals with the X rays in their mathematical, physical, and electro-technical aspects. Radio-active bodies are described in a separate chapter. The second part, which contains 93 pages, is devoted to the description of the physiological action of the various physical agents considered in the first part. Under the headings of the constant and interrupted currents and condenser discharges are described the physiological principles which underlie the determination of the reactions of the excitable tissues, both in a

qualitative and quantitative form. The laws of Weiss are discussed and the measurement of the chronaxie is explained. The third part of the book (313 pages) deals with treatment by electricity, X rays, heat, light, ultra-violet rays, and ozone. This part contains 16 chapters. Fourteen of these deal with the different systems of the body and the various diseases of each system, suitable for treatment by the agents above-mentioned, are considered in order. The appropriate treatment of each is described together with a note on the clinical features of the disease and, where relevant, the X ray examination or electrical test, as an aid to diagnosis. Diseases of the nervous system are treated first and a section is devoted to the subject of the testing of the electrical reactions of muscle and nerve. The other systems of the body are then considered, while malignant diseases and the localisation of foreign bodies are adequately dealt with.

This work is one of the most complete treatises on the subject which has appeared. The first part contains much that would be too advanced for the medical reader who is commencing his study of electrology and radiology. This applies more particularly to those parts which deal with higher mathematics. The elementary parts of physics are clearly described and are not inextricably interwoven with mathematical calculations. The second part will appeal particularly to the more scientific practitioner of medical electrology who wishes to explore new territory and base his investigations on sure ground obtained from knowledge of the effects of electricity on the normal body. The third part will interest the largest number of readers. Treatment is clearly described, whether by electricity, X rays, or other physical agents, and the methods adopted by different authorities are explained. Wherever X ray examination is advisable the radiographic features of the disease are described and there are notes of the clinical features of most of the diseases.

The book is well illustrated, well printed, and indexed. Dr. Guilleminot, we regret to say, died on March 10th of this year.

BIBLIOGRAPHY OF HOOKWORM DISEASE.

The Rockefeller Foundation, International Health Board, New York City. 1922. No. 11. Pp. 417.

WORKERS in scientific helminthology will be grateful to the Rockefeller Foundation for this useful publication. It contains the most exhaustive and condensed account of ankylostomiasis in existence, having over 5000 carefully tabulated references and a most exhaustive author index as well as a list of periodicals in alphabetical order. Emphasis has been laid on the social and economic aspects of the disease and the efforts to control it, rather than on the biology of the parasite. The cumulation of the literature has brought out the interesting fact that four periods of activity in the production of literature in ankylostomiasis have taken place; the first in 1882, after the experience of the Saint Gothard tunnel; the second in 1903, when its general extension in European mines was feared; the third in 1910, culminating in the publication of Looss's monograph in 1911; and the fourth in 1917, when activity in combating the disease in many of the tropical and semi-tropical countries was at its height.

In the introduction to the volume references to this disease in the ancient literature are discussed. The history of the discovery of the hookworm, the origin of fæcal diagnosis, the Saint Gothard epidemic, the development of vermifuges, and the discovery of dermal infection are briefly set forth. Other sections deal with the discovery of *Necator americanus*, the history of the campaign against hookworm in the United States, the extension of this work to many parts of the world, the efforts to discover the ideal anthelmintic, refinement in methods of diagnosis, the life of the hookworm larvæ, especially their isolation from soil. The subject-matter is divided into several sections containing concise and succinct accounts which will henceforward be looked upon as classical and correct statements.

AIDS TO TROPICAL HYGIENE.

Second edition. By R. J. BLACKHAM, C.B., C.M.G., C.I.E., M.D., Colonel, A.M.S. London: Baillière, Tindall and Cox. 1922. Pp. viii. + 240. 4s. 6d.

THIS little book has been considerably extended—indeed, practically re-written. It is designed to help students for the D.T.M. and H., and those working for the promotion examination to the rank of major in the R.A.M.C., and also to provide a handy pocket-book for practitioners in any part of the tropics. Since the war the science of tropical hygiene, as apart from the treatment of tropical diseases, has become so important that to deal with this subject in a small volume is almost impossible. There are bound to be many omissions, but the essentials appear to be present under every heading, and the result is a useful book both from the point of view of the student and from that of the medical officer. Possibly too much space is devoted to a description of the various insects, arachnids, and animals that are instrumental in spreading tropical diseases, at the expense of more important subjects, such as sewage and refuse disposal and water purification. Anti-fly measures, which are of enormous importance in hot countries, might have been dealt with more fully. The only fly-trap mentioned is that designed by Dr. A. Balfour, which is much less efficacious than the roller-towel variety, making use of a solution of arsenite of soda, treacle, and beer. On the whole the author is to be congratulated on the way in which he has fulfilled a difficult task of compression.

JOURNALS.

BRITISH JOURNAL OF SURGERY.—In the October number of this journal Sir D'Arcy Power continues his series of eponyms by discussing Paget's disease.—The article on hydrocephalus by John Fraser and Norman M. Dott is an instructive survey. They introduce a new and simple classification of the ventricular and extra-ventricular types, and they discuss the ætiology, pathology, diagnosis including ventriculography, and treatment.—Zachary Cope presents a study of shoulder pain from the clinical standpoint.—E. A. Linnell contributes a note of a case of fibromyxoma of a nerve trunk.—J. B. Hume discusses congenital diaphragmatic hernia.—J. S. B. Stopford reviews the results of 14 cases of resection of nerves.—Two hundred and twenty-five operations for derangement of the knee are analysed by P. H. Mitchener, who amongst his conclusions states that "the full benefit of the operation is not to be expected for from two and a half to three years after its performance."—G. P. Mills reports two cases of multiple polypi of the stomach.—R. E. Kelly publishes a case illustrating the use of a wedged bridge graft in an ununited fracture.—A. Piney brings forward strong arguments to show that metastatic carcinoma in bones is due to an arterial or capillary embolus.—Lieut.-Col. F. P. Connor considers some surgical aspects of filarial disease.—A. P. Mitchell analyses 100 cases of operation in ununited fractures due to war injuries. The following rare and obscure cases are published: (1) metastatic melanoma of the scapula 18 years after the removal of the primary in the eye (F. D. Cairns); (2) gummatous pancreatitis resembling acute cholecystitis (P. H. Mitchener); (3) a case of a calcified gland of unusual size, giving rise to dysphagia (G. P. G. Wakeley); (4) two unusual complications of femoral hernia; in one there was an acutely inflamed appendix, and in the second an adherent Meckel's diverticulum (S. L. Ludbrook); (5) ulceration of the rectum with perforation into the pelvic cavity and prolapse of the small intestine per anum (C. P. Cuff); (6) torsion of the gall-bladder (C. H. S. Frankau); (7) removal of a pin from the third part of the duodenum (E. E. Hughes); (8) pancreatic fibrosis obstructing both the common bile-duct and the duodenum (W. G. Spencer); (9) two cases of rupture of the rectum communicating with the peritoneal cavity (W. G. Spencer).

THE LANCET.

LONDON: SATURDAY, DECEMBER 9, 1922.

The Profession of Dentistry.

A person shall not be entitled to take or use the name or title of "dentist" (either alone or in combination with any other word or words) or of "dental practitioner" or any name title addition or description whether expressed in words or by letters or partly in one way and partly in the other implying that he is registered under the Act or that he is a person specially qualified to practise dentistry unless he is registered under the Act.

IN these words the Dentists Act of 1878, as amended by the Medical Act of 1886, sought to make provision for the registration of person specially qualified to practise as dentists in the United Kingdom, and it was the hope of its promoters that the Act would result in the creation of a profession of duly qualified men. Unfortunately the Act proved to be unskilfully worded, and in 1909 the House of Lords, in the case of Bellerby *v.* Heyworth, decided that there was nothing in the wording to prevent anyone from doing dentist's work and informing the public that he did so. Only he might not call himself dentist, dental surgeon, or surgeon-dentist. The description forbidden by the Act was a personal description of the man as distinguished from a description of his work. As an immediate consequence of this decision, numbers of unregistered persons put up their names, adding such words as "dental surgery," with the result that their clients believed that they were being attended by a dental surgeon. These persons being under no control in the matters of advertising or canvassing for patients made it difficult for registered men to hold their own, with the natural result that the numbers diminished of those willing to go through the curriculum and to obtain a diploma or degree. The situation was made the subject of inquiry by a Departmental Committee, appointed in 1918 under the chairmanship of Mr. F. D. ACLAND, M.P., and as a result of the labours of this committee the Dentists Act of 1921 was passed. By this Act an "interim period" was allowed during which all persons then practising dentistry might, on application to the Board and on satisfying certain requirements, have their names entered on the Dentists Register. This period expired on Nov. 30th, and from now on, with the trifling concessions mentioned below, all practice of dentistry by persons not on the Dentists Register is illegal and no person can practise unless he enters the profession by the ordinary portal of the dental school curriculum and diploma.

The only exceptions now valid to the practice of dentistry by registered dentists are (1) in the case of registered medical practitioners, (2) the extraction of a tooth without an anæsthetic by a registered pharmaceutical chemist or registered chemist and druggist where the case is urgent, and (3) minor dental work in any public service in accordance with conditions approved by the Ministry of Health. Registration entitles the holder to take and use the description of dentist or dental practitioner, but he is strictly forbidden to take or use, or affix to or use in connexion with his premises, any title or description reasonably calculated to suggest that he possesses any professional status or qualification other than a professional status or qualification which he in fact possesses, and which is indicated by particulars entered in the register in respect of him. We are here quoting the exact wording of the Act which is believed this time to afford no loophole for malpraxis. The scope of what is forbidden to the unregistered person is very wide; for the purposes of the Dentists Act, the practice of dentistry shall be deemed to include the performance of any such operation and the giving of any such treatment, advice, or attendance as is usually performed or given by dentists, and any person who performs any operations or gives any treatment, advice, or attendance on or to any person as preparatory to or for the purpose of or in connexion with the fitting, insertion, or fixing of artificial teeth shall be deemed to have practised dentistry within the meaning of this Act. The penalty for illegal practice is heavy, as an offender is liable on summary conviction to a fine not exceeding £100 for each offence. The Act contains a number of detailed provisions as to the persons who may be registered under it, the principal class being those of good personal character and 23 years of age in July, 1921, who had been in practice for five of the seven years immediately before that date, or who had been members of the Incorporated Dental Society not less than a year before the same date. Special provision has also been made, by examination, for those who had not been in practice so long and for dental mechanics. Any registered pharmaceutical chemist or chemist and druggist who at the date of the passing of the Act had had a substantial practice in dentistry was also registrable. The Board was given certain powers for admitting ex-Service men to the Register, provided it is satisfied that the public interest would not be prejudiced thereby. Provision has been made for dental companies to carry on their business provided that the majority of the directors and all the operating staff are registered dentists.

As a result of the Act it is expected that some 8000 names will be added to the Register, the total number on which has been for a decade between 5000 and 6000. Before the passing of the Act of 1921 discipline was maintained among registered dentists by the General Medical Council who conducted the necessary inquiries through a statutory committee appointed under the Dentists Act of 1878. The Council had in serious cases the power to erase a name; the deterrent effect was, however, much lessened by the fact that a man, even after erasure, might still continue to practise, although he might not call himself a dentist. The Council still possesses the right of erasure, but the duty of inquiring into cases has been transferred to the Dental Board, who will make recommendations to the Council. Now that practice by unregistered persons is forbidden altogether the penalty of erasure will be far more serious, amounting, indeed, to taking away a man's livelihood. On the other hand, the dentist who practises in an ethical manner is protected by the Act from unscrupulous competition. The Dental Board had recently, with the approval of the General Medical Council, drawn up for the warning of practitioners a notice, the substance of which appears on p. 1242. From this it will be seen that advertising and canvassing are altogether forbidden and that the standard which has always obtained among professional men will be strictly maintained. The view of the Dental Board is that the dental profession is likely to take a far higher position in the future than it has done in the past. The importance of conservative work, as opposed to extractions and the use of dentures, is being increasingly realised by the public, and there can be little doubt that the coming into effective operation of the Dentists Act marks the beginning of a new era in the health of the nation.

Modern Anatomical Teaching.

IT is a constant complaint of some members of the profession of medicine, when the subject of education is under discussion, that a student is expected to learn too much, that a large proportion of what he is taught is of no "practical value," and even that too much stress is laid on the "scientific" side of the subjects brought under his notice. We need not spend over these two last classes of objection more time than is necessary to point out that no subject loses its value by being treated scientifically, and that, if the future medical man is to be more than an empiricist, his clinical education should rest upon as wide a basis as possible of general and particular knowledge. Anatomical teaching is usually taken as the awful example; particularly is it said that the student is expected to learn too much. The criticism directed against anatomical teaching on this score is out-of-date. The modern professor aims not at cramming students with disconnected facts, but at giving them a conception of the living body. And this is a hard task, as all will allow who consider the nature of the subject, the almost complete ignorance of the students, and the much curtailed time at the disposal of the classes. It is ludicrous to suggest that the teachers train their students as if they were to become anatomists, for the time allowed in the curriculum for anatomical work is barely sufficient to permit of acquaintance being gained with descriptive anatomy; and it is safe to say that the majority of students acquire this acquaintance and pass to their ward work without any idea of the vast fields of morphology and embryology in which the life of the anatomist is spent. And while no wide range of morphology is attempted, there is no longer any close attention to the unimportant. The examiner can seldom to-day inquire of a candidate the details of the petrosal nerves or the carpal bones. Such questions were regularly asked by the surgeon-anatomists of a quarter of a century ago, but the anatomist of to-day appears to have clearer notions of the relative value of things, and is much larger in his views and in his requirements of candidates.

On the other hand, although the pure anatomist has frequently had considerable clinical experience before taking up his specialty, this is not necessarily the case, and the head of an anatomical department, if he is wise, will see that the clinical element is represented among his demonstrators, while endeavouring to keep in touch with clinical requirements. This matter ought also to be of some concern to the clinicians themselves, for on them devolves the necessity of showing the student how to make use of what he has learnt; and there is no reason why the medical staffs should not utilise the anatomical department of their school as they do the pathological department. The anatomist supplies the anatomy and the clinician its application, but unless the one knows what the other wants each is apt to go off along the lines of his own views. Joint instruction of students occasionally would lead to mutual understanding between the teachers. We can understand that the obstetrician has little use for knowledge of tracts in the central nervous system, while the neurologist gets along very well without much acquaintance with the anatomy of the pelvis, the physician takes less interest in the anatomy of the tibia or the musculo-spiral nerve than the surgeon, and—though we hesitate to say it—the bacteriologist appears to exist who may even consider the study of the body as almost superfluous. When all is said and done, however, the great fact still remains that the scientific diagnosis of the seat of a lesion rests on anatomy and physiology—on structure and its functioning—and till the human race is compelled by the advance of medical science to limit its lesions to certain states and localities it must be the fundamental duty of medical men to make themselves acquainted with normal structure and function as the foundation of their investigations. It may be a hard tax on the student, but that does not abrogate the necessity, and so far as descriptive anatomy is concerned there is no short and easy road to be found.

The hard path must be followed, though efficient guidance can make it more easily traversed. It is not a question of what the average student can remember, or what the average practitioner has forgotten, but of the ideal which ought to be set before the students at the beginning; if they fall from grace, they ought not to be able to say that the vision was withheld from them by their teachers and the opportunity never given. A man may get along with a minimum of knowledge of the normal body with which he has to deal, and if the aim of medicine were merely to "get along," then something might be said for cutting down the teaching of descriptive anatomy to the level of HUXLEY'S "Physiology": but we hope that to-day the majority have higher views, and wish to exercise their intelligence on a sound foundation of information. At any moment some seemingly unimportant detail in anatomy may throw light on an obscure point in a case; it is surely the duty of teachers to show the student the full powers and possibilities of illuminating knowledge.

Advertisement.

AN interesting debate, the gist of which is reported in our columns, took place at the latter part of the recent session of the General Medical Council, arising out of a motion by Dr. R. A. BOLAM that the Executive Committee of the Council be requested to report upon the prevalence of oblique or indirect advertisement by medical practitioners in the lay press. Dr. BOLAM, who rightly mentioned no names, detailed instances where the prominence given to medical men in journalistic reports amounted, in his opinion, to advertisement of a more serious and widespread sort than was contemplated in the standing resolution of the Council against the evil; and the general sense of his audience was that he made good this point—the lay press frequently places the medical practitioner in a position which, on professional grounds, he ought not to wish to occupy. But Dr. BOLAM also produced the impression that many of these victims of notoriety, whether they felt themselves victims or no, were without much power to arrest the mischief. We may take as an example the well-known consultant called in to the case of a public person. The illness of the public person is a public matter, and the name of his medical adviser will be disclosed in any information given to a properly interested audience. Here the medical man has no say in the matter, and the moment we allow that such a position is inevitable it becomes difficult to frame disciplinary measures, which, while condoning one situation, should punish in other situations, where the benefit to the doctor may not be so apparent. There can be no doubt, however, that oblique advertisement—notoriety obtained by the practitioner himself and not thrust upon him—does occur in the daily press, and the medical profession will be grateful to Dr. BOLAM for bringing the matter prominently

before the General Medical Council. His action will give pause to some of the offenders, while the wide endorsement which his words and sentiments are receiving among medical men will support the Executive Committee of the Council in the task of framing regulations to meet the abuses. We are glad to notice that, by the resolution as actually carried, the Committee will have legal assistance. For the regulations must be carefully drawn if they are not to be the source of vexatious indictments, while allowing serious offenders their present latitude.

Hahnemann and Paracelsus.

THE address delivered by Dr. J. H. CLARKE at the opening of the last summer post-graduate course at the London Homœopathic Hospital has been revised and issued as a pamphlet.[1] It represents the advanced and, to many ordinary minds, the mystical section of the various schools of thought that are grouped under the form of medical nonconformity known as homœopathy. The essential tenet propounded by HAHNEMANN 126 years ago was that the cure of disease is to be effected by drugs which will produce in healthy people symptoms similar to those of the disease to be treated; he said, as PARACELSUS had said more than 200 years before, *similia similibus curentur*. Proving the pudding by the eating, it would be difficult to say, in the present state of allopathic pharmacology, that this is essentially wrong. With a few exceptions the more orthodox drug therapy has foundations which seem scarcely firmer, and in any case the motto of the old *British Journal of Homœopathy—in certis unitas, in dubiis libertas, in omnibus charitas*—is a good rule of life.

But Dr. CLARKE deals at greater length with two other doctrines which are more likely to be received with incredulity. In the first place he insists with PARACELSUS on the unity of everything, but, while his predecessor would probably have been a good biologist in the twentieth century, Dr. CLARKE believes that plants and minerals are of like passions with ourselves, and is prepared to assign curative properties to them after psychological analysis. It may be wondered whether the analysis really extends to any other minds than those of the good physician and his patient. In the second place he sides definitely with the Hahnemannian purists and holds that drugs can be effective at infinite dilution, and that, after the material particles have been subdivided to the fullest possible extent, there is developed a spiritual curative agency. As it happens the problem of the ultimate possibilities of subdividing matter has recently been exposed very clearly by Dr. F. W. ASTON[2] from the point of view of the materialistic physicist. He points out that if a cubic decimetre of lead is cut into four equal parts and one of these into four again and so on, the twenty-ninth division would result in something different from lead because it would cut through a molecule. He illustrates also the vast numbers with which one is dealing; take a tumblerful of water and mark all the molecules in it, pour it out, wait till all the water in earth, sea, and sky is again uniformly mixed, draw the tumbler full again from the nearest tap, and you are likely to find about 2000 of the marked molecules in it. But even numbers of this order will supply no rational basis for the retention of any of the original potency after the 60 successive centesimal dilutions admitted by HAHNEMANN, still less after the 100 practised by some of his followers. Starting with a 1 per cent. solution of aconitine, it is extremely unlikely that a single molecule would be found in any random sample of ten cubic centimetres of the thirteenth dilution; after 20 dilutions either there would be no aconite in a dose or the current views of physicists are all wrong. The argument presumably is that the views are wrong.

It is possible, too, that HAHNEMANN was right in thinking that the self-regenerative capacity which we look upon as characteristic of life is far more widely spread. Indeed, suggestions of some such possibility have lately come from those who believe that the Twort-d'Herelle phenomenon is due to a ferment rather than a living organism. Who can tell? Meanwhile, with good nursing, patients go on getting well.

[1] London: Homœopathic Publishing Co. 1s.
[2] Nature, Nov. 25th, 1922. See also A. W. Stewart: Some Physico-chemical Themes, Longmans, 1922, Chapter XII.

Annotations.

"Ne quid nimis."

THE UNSUCCESSFUL DOCTOR.

MONTH after month there may be found in our columns a modest document, too easily overlooked, testifying to the efforts being made to soften the lot of the failures of our profession. These concisely worded announcements reveal bitter tragedies to those who read between the lines: but from recent information we are led to wonder whether we rate too high the power or will of our readers to see their full implication; it may be that a stronger appeal would be necessary to rouse them to a sense of responsibility for those of their colleagues who have not been able to fulfil the high hopes with which every student starts his career. Through illness, through lack of business ability, sometimes through an exaggeration of that unselfish devotion to the interests of the patient to the exclusion of their own which it is our pride to extol, some doctors fail to provide for their old age, or, dying young, for their dependents. Over 70 years ago certain of their colleagues organised a fund in aid of these unfortunates, and it is the doles allocated by this Royal Medical Benevolent Fund that we are privileged to publish from time to time. A typical example, taken from the list in our last week's issue, is the following—its parallel could be found over and over again:—

> Widow, aged 80, of L.R.C.P. Edin., L.S.A. Lond. who practised in Monmouthshire and died in 1889. Applicant lived with two nieces, and the three snared expenses and rent of a small flat. One niece is now dead and the second one has recently been taken to the infirmary owing to mental trouble. Applicant is now left with a total income of £45 per annum, out of which she has to pay rent and food. The Guild sent her an emergency grant of £3 and £1 for coal, and the Fund voted £18 in 12 instalments and a special grant of £7 10*s*.

Is it necessary to picture in greater detail the desolation of a home, which used to be the home of a professional man, where now a grant of 20*s*. for warming, cooking, and cleansing purposes is a boon? Criticism has been made that the doles allocated are almost too small to be of use. If this were true in certain cases—it may well be true—it reflects shame, not on the Fund, but on the fact that only 7 per cent. of the medical profession give it support. Moreover, the published record is not the whole of the work done. The Royal Medical Benevolent Fund Guild supplements the money grants in kind, and supplies clothing, food, and, greater than these, opportunities of education, leading to self-support, to the younger dependents of the beneficiaries. So sensitive are some of these that the Guild is deprived even of the limited advertisement of its activities represented by a monthly paragraph in the medical press. We would make an appeal this Christmastide to those who can look back on a reasonably successful year to place a banker's order for an annual subscription, however modest, in favour of the Fund (hon. treasurer, Sir Charters Symonds, 11, Chandos-street, London, W. 1). This is not only a duty but an insurance, for who knows whether calamity or ill-health may not render any one of us unable to make permanent provision for his dependents. Another possible source of revenue to the Fund may be indicated. The traditional reluctance to accept fees from colleagues need not prevent us from encouraging those who have incurred

large obligations in the way of professional service from discharging these in the form of a contribution to the common good. In fact, it might well become the custom for the fount of gratitude to be deflected into this channel. To women connected with the profession we would commend the activities of the Guild. Details of schemes for a campaign of propaganda, which includes a festival dinner at the Hyde Park Hotel on Jan. 30th, will be found on page 1251 of our present issue.

UTERUS DIDELPHYS.

ACCORDING to Dr. Norman F. Miller,[1] of the Department of Obstetrics and Gynecology of the University of Michigan, uterus didelphys, or double uterus, used to be regarded as incompatible with life, and as late as 1873 Fraenkel cited the cases of Olliver and Bennett as the only two recorded examples of the condition in the living adult. Pfannenstiel, in 1894, who recorded 12 cases in the adult, was the first to show the importance and frequency of the condition, and was followed by Giles in 1895, who collected 21 cases, one of which was under his care. Dr. Miller's paper is based on 54 cases collected from the literature, including a personal one in a girl aged 14. Only those cases with two distinct fundi, each with its own cervix, are included in this series. A study of these cases shows that the fertility and frequency of conception in women with this malformation are not particularly affected. Of the 54 women 32, or 59·2 per cent., conceived, and there was a total of 67 pregnancies. In 5 pregnancy occurred in the right uterus only, in 9 in the left uterus only, in 7 in both uteri, and in 11 the side in which it occurred is not stated. Interruption of pregnancy occurred far more frequently than in normal uterine pregnancy. In 41, or 61·1 per cent., of the 67 pregnancies birth took place at term, but only 28 of the 41 cases were delivered normally. Nineteen, or 28·3 per cent., of the pregnancies aborted in the early period of gestation, and in 7, or 10·4 per cent., birth took place prematurely. One of the patients was delivered by Cæsarean section owing to obstruction of the natural route by the non-gravid half of the uterus. The complicating factors in abnormal deliveries at term were, in order of frequency: (1) Enlarged non-gravid half of the uterus, which occurred in 4 cases. This is all the more likely to act as a cause, as the non-gravid half increases in sympathy with the gravid half during pregnancy. (2) Vaginal septum in cases associated with a double vagina (2 cases). (3) Uterine inertia (2 cases). (4) Tetanically contracted uterus (1 case). (5) Retention complications (1 case). (6) Eclampsia (1 case). Four, or 9·7 per cent., of the 41 full-term deliveries required forceps, in 2 instances for inertia, and in 1 for after-coming head in a version with extraction; the indications for the fourth case could not be determined. Version and extraction were performed in 3 cases. Cæsarean section was performed in 2 cases, in one for a tetanically contracted uterus, and in the other for dystocia due to the enlarged second uterus. Not only are pregnancy and labour complicated in uterus didelphys, but also the third stage and the puerperium. Manual removal of the placenta was required in 8, or 11·9 per cent., of all third stages. Post-partum hæmorrhage and subinvolution were more frequent than in normal cases, the non-pregnant half of the uterus preventing normal contraction of the gravid uterus. Post-partum retroversion also tended to occur more frequently. Retention complications ranked next in frequency to obstetrical complications. Hæmatometra was found in 8 of the 54 cases, or in 15·4 per cent., with one exception, in which the side was not mentioned, on the right side. Pyometra occurred in one case only, on the left side. In 42 of the 54 cases double uterus was associated with double vagina. Three cases had a single vagina, and in 9 the vagina was not mentioned. In 8 cases there was an associated hæmatocolpos, occurring on the right side in 6 and on the left side in 2. In 1 case pyocolpos was reported on the left side in association with pyometra on the same side. Other complications sometimes associated with double uterus are ectopia vesicæ, double vulva, double urethra, fibroids, and, as in Dr. Miller's case, pelvic kidney. In many cases the condition of double uterus is not diagnosed until after an exploratory laparotomy or opening of the abdomen for some other reason. Dysmenorrhœa, which occurred in 11, or 20·3 per cent., is suggestive. Amenorrhœa is rare except in cases with retention of menses, in which the diagnosis is frequently made early, the symptoms being sufficiently severe to demand early and careful examination. Rectal examination is often of great value. Surgical treatment is rarely required except in cases associated with retention complications, and treatment should be confined to prevention of abortion and incarceration in the early months of pregnancy.

[1] American Journal of Obstetrics and Gynecology, October, 1922.

THE DANGERS OF CHRISTMAS DECORATIONS.

As Christmas draws near it is not out of place to ask readers of THE LANCET to warn their friends, if the occasion arises, against those dangers of fire which are almost inherent in Christmas-trees and Christmas "dressing-up." It may safely be said that hardly a Christmas passes without cases occurring of children or of grown-up persons, disguised for the purpose of amusing the children, being burned more or less seriously. Sometimes a Christmas-tree decorated with unguarded candles, placed in position by not too careful helpers, catches fire. To say nothing of the general prevalence of cotton-wool "snow," there are many toys largely composed of celluloid. It would be difficult to suggest two materials better adapted to the lighting of a dangerous bonfire at a moment's notice than cotton-wool and celluloid. If those who organise or take part in school treats and family gatherings must employ these two substances, they should do so fully realising the precautions necessary, and prepared to meet the emergency if it arises.

CARCINOMA EX ULCERE.

EVER since Cruveilhier in 1830 suggested that a simple ulcer of the stomach might assume malignant characteristics, this possibility has been exhaustively discussed, and in many quarters the guess has been converted into a dogma. Mayo-Robson has found a history of ulcer in 59·3 per cent. of the cases operated on for gastric carcinoma, and Moynihan has found it in two-thirds of his cases. Among 180 resections for ulcers, W. Mayo found cancerous degeneration in 54 per cent., and in 153 cases resected for gastric carcinoma Wilson and McCarthy of the Mayo Clinic found macro- and microscopic signs of pre-existing ulcers in 71–78 per cent. Many pages could be filled with similar findings, and the doctrine of *carcinoma ex ulcere*, which has survived for almost a century, would seem to be almost impregnable. But in a paper by Dr. N. A. Nielsen,[1] statistics are given and arguments adduced to show that this doctrine is not wholly substantiated. His material consists of 221 patients treated for ulcer in the medical wards of the Rigshospital in Copenhagen in the period 1897–1915. The fate of all these patients was ascertained 2½–19 years after discharge. It was found that 44 had died, 12 having contracted gastric cancer, from which 11 had died. Classification of the 221 patients according as their symptoms had lasted less than six years or from six to 57 years, showed that there were 66 in the first, 155 in the second class. In this class there was only one patient who had died of cancer of the stomach. Thus no greater tendency to develop gastric cancer could be demonstrated among these 155 patients than exists in the general population. In this group there was, indeed, another case of cancer, but the patient was still alive after

[1] Acta Chir. Scand., 1922, lv., 57.

resection of the stomach in 1914. In the other class represented by 66 patients, there were as many as 10 deaths from cancer of the stomach, but these were possibly cases of primary cancer, simulating ulcer so closely that this was diagnosed even in a hospital which specialised in gastric pathology. A study of these 10 cases of carcinoma, masquerading as simple ulcer, showed that the first symptoms had almost invariably begun after the thirtieth year, the average age on the first appearance of symptoms being between 43 and 44 years. Thus, though malignant disease may closely simulate a simple ulcer, it is partly betrayed by its appearance comparatively late in life and by the brevity of the interval between the first symptom and the calling in of medical advice. A study by Dr. Nielsen of 41 cases of so-called *carcinoma ex ulcere*, published by other writers, brings out the same points. In as many as 22 the duration of the symptoms was less than two years, and the average age at which the symptoms first appeared was 45. Hence the conclusion that most if not all these cases were not examples of *carcinoma ex ulcere* but of primary malignant disease simulating ulcer. If Dr. Nielsen's findings are confirmed, they should prove of considerable help in prognosis as well as in deciding on the most appropriate treatment.

VISCERAL WEIGHT RATIOS IN TUBERCULOSIS.

Prof. Raymond Pearl and Miss Bacon [1] have had the idea of extending the biometrical study of human visceral correlation, already undertaken by Dr. Major Greenwood in the ordinary run of subjects, to subjects dead of, or with, tuberculosis. The first-named investigator points out that natural death of a multicellular body can be interpreted as the resultant of a disturbance at any point of the exact functional balance of its parts, upon which, therefore, the resistant powers of the organism must in some measure depend. The study material was found in the first 5000 autopsy records of the Johns Hopkins Hospital, separate groups being made for active tuberculosis, where generally speaking this disease was the cause of death, and for inactive tubercle, where the cases presented old healed lesions of a magnitude sufficient to gain mention in an ordinary post-mortem examination. The following organ-weight indices were studied: Liver-heart, liver-spleen, liver-kidneys, heart-spleen, kidneys-heart, kidneys-spleen. The absolute organ-weights were neglected, because the main problem with which the investigation was concerned was the general biological one of organic regulation, while further, if absolute weights were taken into consideration, then the task would be complicated by the impossibility of correcting them for unrecorded total bodily weight, and burdened with a great deal of correction for age of subject. The first main results were, as might have been expected from our knowledge of the disease, that in the "active tuberculous" group there was marked over-representation of early ages, and in the "inactive" just the opposite state of things. Females died of tuberculosis at an earlier age than did males; negroes earlier (by five years) than did whites; as a broad feature, too, the presence of tuberculosis did not seem to affect the normal changes with age (as found by Greenwood) of the weight ratios of the several organs dealt with. While there was no difference in the mean value of the liver-heart ratios in negro and in white actively tuberculous subjects, except where lesions of the heart were found at autopsy, the liver-spleen ratio showed, on the contrary, a definite tendency to higher mean values amongst the coloured, which held good whether the tuberculous lesions were active or inactive. The authors think this shows "a significantly different organic adjustment in the negroes and whites of a tuberculous population"; and might have been expected, they say, from the data of Bean and Baker, who found spleen-weight low in the negro. In the negro, too, the heart-spleen ratio was also high, reflecting the last finding and also the large size of the negro heart. Kidney-heart ratio was unaffected by race, as a priori probable from the close physiological connexion of these two organs. Sex differences were not significant. The influence of active tuberculosis per se was that all the "tuberculosis only" group showed lowering of the heart-spleen ratio—that is, decrease in weight of heart, increase in weight of spleen. The question whether this change was tuberculo-toxic or congenital the authors say their present figures do not decide. They promise additional investigation of the point, observing in conclusion that their general statistical studies of the disease show it behaving as an organic affection rather than as a simple infectious process. In such additional inquiry, we might add, expert mathematical analysis of the work of Beneke and of Brugsch would be of service.

[1] Johns Hopkins Hospital Reports, vol. xxi., Fasc. iii., Baltimore, 1922.

BACTERIAL SUCCESSIONS.

ŒCOLOGICAL botanists have now clearly recognised that the ordinary world of higher plants is arranged in communities of which the members are in harmony with one another and with their environment, and that these communities are not stable and permanent but progressive and changing like the human societies with which we are more familiar. If a piece of land is artificially cleared of its natural inhabitants by intensive cultivation and then abandoned, it is almost at once occupied by what we call weeds, at first in a great variety which later on, by the mutual action of the plants on one another and on the environment, is reduced to an association of fewer but more permanent species. Trees and bushes come in, producing their characteristic effect on the flora more slowly, and ultimately a well-grown wood may represent a definite phase in the evolutionary succession. But this, too, may be destroyed by the accumulation of an acid surface soil and be succeeded by a peat moor, which in its turn may be torn to pieces by the weather. There can be little doubt that these phenomena of plant communities and plant succession are represented in the natural history of the pathogenic bacteria. Each habitat in the body is occupied by its own bacterial flora and the skin, mouth, duodenum, and colon have each their characteristic organisms, varying greatly from one habitat to another and relatively very little in different individuals. Of bacterial successions we have small knowledge, but it is evident that the time relations are likely to be on an entirely different scale from those which hold with the higher plants. Just as obvious evolution of communities of annual plants may occur in a few years while for woodlands centuries are more suitable units, so we should expect with bacteria, which under favourable conditions can double their numbers every half hour, that similar changes might be achieved in days or hours. In treating the large intestine with his Bulgarian bacillus, Metchnikoff was imitating the farmer who changes the whole character of the weeds on his arable land with a dressing of lime. We published recently a preliminary account by Prof. W. W. C. Topley and Dr. H. A. Fielden of their studies of a particular case of bacterial succession in vitro. They show there how the relative abundance of the different constituents of a mixed population varies widely from time to time and how there may be a succession of dominant species. The study is of a tentative character, but it emphasises the importance of the problems which are raised, and it is necessary that such complex phenomena should at first be studied under simple conditions of artificial culture before we can hope to solve the examples which actually occur in the body. The objective study of what happens in bacterial populations is a corollary to Prof. Topley's well-known work on experimental mouse epidemics. Infection can only be successfully studied if it is looked at from the point of view of the parasite as well as that of the host, and we hope that Prof. Topley's attempts to transfer the phenomena of

the field to the controlled circumstances of the laboratory will not be interrupted by his recent translation to Manchester.

THE SACHS-GEORGI REACTION IN OBSTETRICAL WORK.

AT a recent meeting of the Budapest Royal Medical Society Dr. Béla Váró read a paper in which he stated that in the light of results obtained in syphilitic patients treated at the 1st Obstetrical Clinic at the University, the Sachs-Georgi reaction could be described as indispensable in the diagnosis of latent syphilis. Its value had been proved in cases where the disease could not be detected by the Wassermann method; in 11 women who had borne syphilitic children, but had nothing pointing to syphilitic infection either in the past history or clinically, and in whom the Wassermann reaction was negative, the Sachs-Georgi reaction gave a positive result. Since then he had analysed by the Sachs-Georgi method the blood of every syphilitic child coming under his observation, and had not seen one mother who reacted according to Colles's law; the mothers were all found to give a positive Sachs-Georgi reaction. He admitted, however, that the Sachs-Georgi method could not replace that of Wassermann, as some cases of syphilis could only be diagnosed by means of the latter; but Sachs-Georgi's must be considered as a valuable supplementary method.

PROPHYLAXIS OF SIMPLE GOITRE.

THAT iodine deficiency is an important factor in the production of simple goitre is now one of the accepted premisses in thyroid pathology. It may therefore be assumed that an adequate supply of iodine in the food is essential for the well-being of most animals. The natural distribution of iodine compounds has been examined by E. R. Hayhurst,[1] and he has pointed out that owing to the great solubility of sodium iodide, it tends to disappear from land surfaces and to accumulate in its chief storehouse, the sea. For this reason dietary salt prepared from a marine source should contain a proper supply of iodine, but modern methods of preparation of salt tend to eliminate its natural iodine content, irrespective of its source. The deficiency will be to some extent remedied by the small quantities of iodine present in other foodstuffs, but it becomes more accentuated in a district the higher it lies above sea-level, owing to the greater washing out of soluble salts which takes place in mountainous places. This observation agrees with the fact that simple goitre occurs with great frequency in certain high districts, and it is natural that the subject should receive close attention in Switzerland. Recently (June, 1922) a Swiss goitre commission has reported on the question and an important contribution has been made by Prof. F. de Quervain,[2] who deals primarily with the prophylaxis of goitre. Prevention has been dealt with by many other writers, but usually the method advocated has been the administration of iodine or its salts to all school-children in affected districts. But de Quervain points out that post-mortem examinations made on infants in Swiss goitre centres show that an enlarged thyroid gland is always to be found, and he urges therefore that prophylaxis should begin long before the school-age and should, in fact, begin with the treatment of the mothers. The best means he believes to be by the use of dietary salt with a proper iodine content. Caution should, however, be observed. The dose for infants and children must be kept well below that which is necessary in adult life, and in school treatment the dose must be at the lower limit of that which is known to be effective. Special care should also be taken with girls approaching the age of puberty and the treatment should be withheld at the first sign of thyroid hyper-activity. All preventive treatment should therefore only be used with effective medical control. This warning as to the possible dangers of indiscriminate prophylaxis is well advised. Man often needs to be protected from the ill-effects of his own cleverness.

[1] Jour. Amer. Med. Assoc., 1922, lxxviii., 18.
[2] Schweiz. med. Wochenschr., August 31st, 1922.

A NEW FERMENTATION TUBE.

AT a meeting of the Section of Pathology of the Royal Society of Medicine on Nov. 21st Dr. C. E. Dukes described a new fermentation tube to be used in the testing of the fermentation of carbohydrates by bacteria in the presence of peptone. He emphasised the serious alteration which takes place in sugar solutions when sterilised even by steaming in the presence of peptone, and suggested that many of the uncertain reactions recorded in fermentation tests might be attributed to this alteration in the sugar. Thus, a non-lactose-fermenting organism might produce sufficient acid from the by-products originating from the sterilisation of the lactose in the presence of peptone to turn the indicator acid, although the lactose itself had not been attacked. He gave instances of other confusing results observed, attributable to this deterioration of the sugar. He mentioned the chemical experiments which had verified the above hypothesis and showed that no such alteration took place in the sugar when sterilised in a simple watery solution. The new fermentation tube was introduced to avoid this deterioration of the sugar on sterilisation. It is similar to the ordinary Durham's fermentation tube and is contained in larger test-tubes in a similar fashion, but a small glass cup is fixed to the top of the fermentation tube and into this cup is placed ½ c.cm. of a 10 per cent. solution to the sugar to be tested. The surrounding test-tube contains 4½ c.cm. of 1 per cent. peptone-water. The test-tubes are sterilised in the autoclave in the upright position, the sugar being thus separated from the peptone. After sterilisation the tube is tilted to an angle of 30° when the sugar runs out of the cup and mixes with the peptone, thus giving a 1 per cent. solution of the sugar in approximately 1 per cent. peptone. The tube is now ready for inoculation with the organism to be tested. The advantages claimed for the new fermentation tube are that this method of testing sugar reactions is more accurate since no deterioration takes place in the sugar during sterilisation if it be separated from the peptone, that a more delicate indicator can be employed, that the method is rapid, simple, and economical. Dr. Dukes described the method of making these fermentation tubes, which can be obtained from Messrs. Baird and Tatlock, Hatton Garden, London, E.C.

A FACTOR IN MINERS' NYSTAGMUS.

ACCORDING to Mr. A. S. Percival,[1] who has had considerable experience in the examination of coal-miners for nystagmus, the liability to this disease is an idiosyncrasy that affects a certain proportion—some 5 per cent.—of the population. The reason which has led him to this conclusion is the frequency with which recurrence takes place in those who, once having been cured return to work as hewers—i.e., to underground work at the coal-face. Indeed, a recurrence under these circumstances appears to be inevitable. Mr. Percival recalls four patients, each of whom was reported on by him on no less than three successive occasions, and each of whom, after intervals of recuperation and light surface work, had returned to hewing, at some other pit, only on each occasion to develop nystagmus and obtain compensation. It is obvious, he says, that the unfortunate pitman who acquires miners' nystagmus must be given compensation for a limited period, say 12 months or so, in which to recover from his symptoms and, if possible, obtain other employment. But it is equally obvious that he ought never to be allowed to attempt underground work again. That he should be awarded compensation on the scale of total incapacity for work

[1] Transactions of the Ophthalmological Society, vol. xlii., 1922.

appears absurd, if he is as fit as ever he was for any work except coal-mining; and yet this is what has sometimes occurred in these cases. The great sums paid in compensation are reflected in the enormously increased price of coal and the difficulties in the export trade. We agree with Mr. Percival that the interests of both workmen and employers would be best served by limiting the period during which the compensation can be claimed, and encouraging the workman to change his occupation. But encouragement will have to take some practical form in these days of unemployment.

THE TRAPPING OF FLY LARVÆ.

THE problem of the fly is seasonal, and whereas it has lost interest here until next July the approaching summer in the southern hemisphere makes it topical. Dr. L. G. Haydon, assistant medical officer of health for the Union of South Africa, contributed to the *South African Medical Record* of June 24th a memorandum on the disposal of animal manure and garbage in relation to fly-breeding and prevention of enteric fever and other intestinal diseases. The method perfected by Captain E. Baber, sanitation officer to the Union Department of Defence, is stated by Dr. Haydon to have proved of great use in abating the fly nuisance; the South African Central Public Health Authority recommends its adoption, and several public authorities have already made use of the device. In 1918 Captain Baber described his invention in our columns [1]; he had then dealt with the manure from a thousand horses at Potchefstroom Camp during summer and winter with uniform success. The device consists, it will be remembered, of enclosures of wire mesh on cement or brick platforms. A channel sunk in the platform surrounds the enclosure; the manure and garbage is trodden down firmly in the enclosure, and the heat engendered drives all maggots through the meshes of the containing fence, so that they eventually fall into the sunken channel for collection and destruction. Dr. Haydon quotes Mr. Walter Jameson, town engineer, Kimberley, who writes as follows of the first large-scale application of the method in the Union:—

"Each trap or enclosure has a capacity of about 240 cubic yards—equivalent to one week's accumulation of town manure and garbage. The manure is carted down—sometimes three or four days old, which means that the female fly has already laid eggs in it. It is forked direct into the enclosure and a labourer maintains the level, at the same time treading it well down, especially round the sides. . . . . After the second day, owing to eggs having been laid in the manure while still in town, the maggots begin to show signs of activity . . . . trying to escape the heat of the rapidly decomposing heap. Finally, seeking cooler regions, the maggots drop on to the ledge between the base of the stack and the channel. . . . . The ledge of cement heated by the sun proves too hot and they migrate further, finally falling into the channel provided, where they are swept up into paraffin tins for destruction. In one instance I removed on the ninth day four wheelbarrow loads and ten paraffin tins of larvæ from one channel. When in full swing the channel and sump have to be swept up three times a day until maggots cease to emerge. At first it appeared that the maggots would hatch into flies at the top of the stack, but careful observation showed that this did not occur except to a very small extent. . . . . Four enclosures in all—each capable of holding one week's accumulation of manure and garbage—is the ideal plan. . . . On results obtained and noticing the marked decrease of flies, I am convinced that the fly pest will be reduced to a minimum."

Dr. Haydon recommends the method not only for institutions and farms where quantities of animal manure and fermentable waste have to be dealt with, but also for large communities, with the proviso that in towns waste materials must be collected in separate receptacles, so that fermentable matter useful for fertilising purposes—e.g., animal manure, vegetable garbage, and slaughter-house refuse—are not mixed with ashes and old tins, which would interfere with the rotting process. In South Africa further experiments are being conducted as to the range of temperature in the stacks under varying conditions, such as moisture. Dr. Haydon states that the experiments hitherto performed on these lines go to indicate that destruction of such organisms as *B. typhosus* must occur. Considerable public interest would attach to similar experiments in Great Britain. Dr. Haydon, speaking from his experience in South Africa, regards the question of the disposal of refuse as of vastly more importance than, say, the control of plague.

[1] THE LANCET, 1918, i., 471.

ADULTERATED FOODSTUFFS.

THE annual report for 1921 of the Salford Borough analyst, Mr. G. D. Elsdon, contains much interesting matter. Thirteen out of 25 whisky samples contained added water. Eighty of 898 milk samples, or 8·9 per cent., were returned as adulterated. In spite of this the average composition of all milk samples for 1921 was 3·59 for fat and 8·94 for non-fatty solids. The fat in 1921 was lower than the average for the previous seven years, but the non-fatty solids were higher. Many of the adulterated samples were illegally coloured artificially. Many were dirty, although the standard taken of five volumes of sediment per 100,000 is, in the opinion of the analyst, a very lenient one. An unusual adulteration—viz., by potassium nitrate—is reported, the object being apparently to destroy objectionable odour. Mr. Elsdon reports with satisfaction that a large proportion of the rice now sold is unpolished, but, nevertheless, he found 7 out of 16 rice samples had been faced with mineral matter resembling talc, and that 3 out of 6 samples of ground rice contained an excess of mineral matter from the same source. The only object of this talc-polishing, says Mr. Elsdon, is to improve the appearance in order that a higher price may be demanded from the purchaser. No less than 17 out of 59 samples of borax were found to contain excessive arsenic, in eight cases to the extent of 1½ gr. or over of arsenious oxide per pound. As a result of this discovery, the preservatives used in places where cooked meat was prepared were examined, and 5 out of 10 preservatives used were found to contain from 1/10 to 3 gr. of arsenious oxide per pound. The trouble had arisen through borax intended for commercial purposes being used for food purposes. One of the first lot of samples was sold by a qualified pharmacist as "pure medicinal borax," and another by a grocer as "refined borax." The analyst reports having examined 19 samples of human milk, with an average percentage composition of 9·52 total solids, 2·25 fat, and 7·27 solids not fat. The composition given is so unusual that one wonders whether due precautions were taken to obtain a fair sample of the whole of the milk in the breast.

RECOVERY FROM TUBERCULOUS MENINGITIS.

UNTIL recently students have been taught that tuberculous meningitis is incurable, and that when the patient recovers the diagnosis should be changed to one more plausible. There was some excuse for this teaching before lumbar puncture and the discovery of the tubercle bacillus had rendered possible the accurate diagnosis of this disease. Now, however, it is not only certain that the disease may clear up automatically, but that it also does so in a considerable number of persons who have passed childhood. In the *Annales de Médecine* for September, Dr. A. Cramer and Dr. G. Bickel have recorded a case in which recovery followed tuberculous meningitis in a man aged 19, whose cerebro-spinal fluid contained tubercle bacilli, as shown by direct microscopic examination and guinea-pig inoculation. The most interesting feature, however, of this paper is the authors' collection and analysis of similar cases. About 250 have been published, but this number becomes greatly whittled down when only those cases are considered in which the evidence is irrefutable. Such evidence is the post-mortem demonstration of old tuberculous lesions in patients who have died a considerable time after recovery from an attack of clinically typical tuberculous meningitis, or the finding of tubercle bacilli in

the cerebro-spinal fluid. The authors have collected 46 cases which pass the most stringent tests. In 23 the tubercle bacillus was found in the cerebro-spinal fluid, and in 14 it was not found in this fluid, but its injection into guinea-pigs provoked tuberculosis. There are also six recorded cases in which the tubercle bacillus was demonstrated both in the cerebro-spinal fluid by microscopic examination and by guinea-pig inoculation. Only one case has, apparently, been recorded of recovery in a patient under the age of 2 years, and the number of recoveries increases with age, approximately 30 per cent. of all the recoveries having occurred in adults over the age of 20. Many of these recoveries are, unfortunately, ephemeral; the authors calculate that in at least 25 per cent. death occurs sooner or later from tuberculosis. It is well, therefore, not to speak of complete recovery till several years have passed. The authors very naturally suggest that, as spontaneous recovery certainly does occur, it should be possible to learn and exploit the factors on which recovery depends. Unfortunately, however, the patient's age and naturally acquired resistance are the most beneficial factors, and these are not available for the infected infant. Frequent withdrawal of cerebro-spinal fluid possesses the double advantage of relieving pressure on the brain and removing the toxic products of inflammation. Auto-serotherapy and the injection of tuberculin into the spinal canal are of doubtful value, and probably the most important step is prophylactic—i.e., the prevention of that massive infection held to be responsible for most cases of tuberculous meningitis in infancy.

THE MEDICAL DIRECTORY FOR 1923.

THE Medical Directory for 1923, which has just appeared, contains 46,311 names, being an increase of 725 over 1922, and easily the largest number on record. Increment is particularly noticeable in the provincial section and that of practitioners resident abroad. The names of the members of the Dental Board of the United Kingdom appear for the first time. Of those legally qualified to practise dentistry, the list is confined to what is now a minority—namely, graduates and licentiates in dental surgery. It may be recalled that in its early days the London Medical Directory, although excluding the names of irregular practitioners, included those of persons educated in the medical profession, and thus considered regular practitioners according to *usage*. In the way of minor but useful additions to the Directory we note the list of Ministry of Pensions Hospitals on pages 1837–8, and a rearrangement of the Notes on British Health Resorts, which are now conveniently divided into Spas, Marine Health Resorts in various topographical groups, and Inland Health Resorts. No doubt the Directory went to press too early to include a list of medical members of the new House of Commons; by intelligent anticipation, however, two or three names stand with M.P. added to them—fortunately, as far as we have noted, correctly. The volume is the seventy-ninth annual issue, and the price is unchanged—36*s*. net. The publishers are Messrs. J. and A. Churchill, 7, Great Marlborough-street, London, W. 1.

AT the last annual meeting of Fellows and Members of the Royal College of Surgeons of England Dr. Redmond Roche stated the claims of the Members, but no debate ensued, the President pointing out that the passing of resolutions at the meeting would not give the Council the necessary powers to do what was demanded.

WAR EMERGENCY FUND.—At the last meeting of the committee 29 cases were placed before the members for consideration. The sum of £573 was granted for personal service and £562 6*s*. for education. Two cases had not re-applied for renewal of education grant. Under the education scheme the committee was asked by two cases to sanction the change of schools. This was agreed to. The War Emergency Fund is now educating 47 sons and daughters of medical men at a cost of £3420 per annum.

INTERNATIONAL CONFERENCE ON STANDARDISATION OF SERA AND SEROLOGICAL TESTS.

I.—SERO-DIAGNOSIS OF SYPHILIS.

THE subjects specially studied by this Conference, which was held in Paris last month, included a review of recent comparative work in the laboratories of different countries with a view to standardisation of various sera (diphtheria, tetanus, meningococcus, pneumococcus, dysentery, &c.), and also the work which has similarly been undertaken with regard to the sero-diagnosis of syphilis. The last of these subjects only is dealt with in this article.

The desire for a standard serum test for syphilis has been voiced in many quarters. Since the introduction of the Bordet-Wassermann test in 1907 the modifications of the original technique which have been made by laboratory workers have become legion. This is easy to understand when it is remembered that five reagents are employed in the test—patient's serum, antigen, complement, blood cells, and hæmolytic amboceptor; that there is no general agreement as to the amount of each which should be employed; and that there are wide differences of opinion as to the source and method of manufacture of the antigen, as well as on the conditions of incubation and the degree of complement fixation which may be regarded as positive for purposes of diagnosis. Further, each laboratory employs its own method of noting results, and it is not surprising that the clinician who receives a report from a laboratory with whose standards and methods of notation he is not familiar is at a loss for a correct interpretation.

Need for Comparable Results.

The difficulty is felt more particularly when it is desired to compare the results of treatment carried out in one country or part of a country with that in another, seeing that the blood tests are carried out in different laboratories. For example, in the case of the merchant seaman, the medical officer of a treatment centre in Cardiff is at a loss to interpret the hieroglyphics indicating the blood reaction noted in Hamburg, Marseilles, or Yokohama, as the case may be. It is more particularly for the sake of securing continuity of treatment in the mercantile marine that the Health Committee of the League of Nations has undertaken a research with the object of discovering a serum test for syphilis which would be accepted as standard by all countries and the results of which would be comparable. The matter was first brought forward by the British delegate in the Office International d'Hygiène Publique in connexion with the international agreement for treatment of venereal disease at seaports which that office is negotiating. It was again raised by Colonel L. W. Harrison at the North European Congress on Venereal Diseases, held in Copenhagen under the auspices of the League of Red Cross Societies in May, 1921. At first the idea was to attempt standardisation of the Bordet-Wassermann test, or at least to learn how the Bordet-Wassermann tests carried out in different countries compared with one another, so that a clinician could interpret the report from any laboratory in the terms of that to which he was in the habit of sending his own specimens.

Merits of Various Tests.

The introduction, however, of the Sachs-Georgi test, which has given results closely concordant with those of the Bordet-Wassermann, offered a hope that in this or some modification based on the same principle the desired standard test might more easily be found than in the Bordet-Wassermann test itself. This is easily understood when it is remembered that the Sachs-Georgi test depends simply on the flocculation which occurs when inactivated syphilitic serum is mixed with a cholesterinised alcoholic extract of heart which has been suitably diluted. Only two reagents are necessary instead of five as in the Bordet-Wassermann test, and complicating factors

are, therefore, diminished very considerably. A refinement of the Sachs-Georgi test which permits also of very fine titration of the strength of the reaction is the Sigma test of Dreyer and Ward. Another flocculation test is that of Meinicke, which differs principally from the Sachs-Georgi in the non-addition of cholesterin to the heart extract. All of these having been reported upon in satisfactory terms by various authors, a committee of the International Conference on Standardisation of Sera and Sero-diagnostic Tests held in London in December last,[1] recommended that they be compared on a large number of sera in different laboratories in Austria, Belgium, Denmark, Germany, Great Britain, and Poland.

Resolutions of the First (London) Conference.

The following resolutions passed on the subject indicate sufficiently the conditions under which the comparative tests were to be made:—

1. In a certain number of institutes the Wassermann reaction as practised in them should be compared with the methods of Sachs-Georgi, Meinicke No. 3, and Dreyer ("Sigma").

2. The number of cases examined in each institute should be 1000 of undoubted syphilis and 1000 in which syphilis could be excluded as far as possible.

3. It is also recommended that the different methods should be compared on about (one and the same) 50 cases out of the 1000 at different stages of the disease. These repetition tests should be carried out on at least three or four occasions in the course of the disease, and it is recommended that the 50 cases should comprise, especially, suspected syphilis of the nervous system and of the eye.

4. The worker should be allowed the opportunity of studying the respective authors' own methods in the respective institutes.

5. The places where the tests are to be carried out should be efficiently equipped and the serologist should be in as close touch with the clinician as possible.

6. For the flocculation tests the serologist should use only those extracts prepared or controlled by their respective authors.

7. The samples of serum to be tested should be known only by numbers, and the serologist should not have access to the clinical or pathological records until the whole series of tests is concluded, but the chief of the laboratory may cause any serum to be re-tested without making the serologist aware of the fact.

8. A preliminary report should be submitted after the first 500 tests have been concluded.

9. All reports on tests should include information as to (*a*) reliability of the method; (*b*) complexity of technique; (*c*) relative consumption of time by the method; (*d*) expense; (*e*) ease and accuracy with which the reaction can be observed; (*f*) percentage of dubious results; (*g*) the extent to which the method yields quantitative results.

10. It is recommended that all the results shall be finally submitted to the State Serum Institute, Copenhagen.

Work so far Undertaken.

In this country the work was undertaken by the Medical Research Council, who appointed Colonel L. W. Harrison generally to supervise the work and Dr. E. J. Wyler, M.C., to carry out the actual tests. A small laboratory was fitted up at St. Thomas's Hospital by the courtesy of the treasurer and almoners, and most of the specimens were provided by the V.D. treatment centre at St. Thomas's Hospital. Others have been sent on request by Prof. R. Bolam, Newcastle; Dr. A. Cambell, Portsmouth; and Dr. H. H. White, Bradford, while many control specimens have been provided by the staff of St. Thomas's Hospital. The clinical records were unknown to the testers from the beginning, and Dr. Wyler has carried out all the steps in each test after inactivation of the sera. In addition to this a comparison between the Bordet-Wassermann and the Sigma test, which had already begun when the first Conference opened, has been made by Prof. J. McIntosh and Dr. P. Fildes for the Bordet-Wassermann, and Prof. G. Dreyer and Dr. H. K. Ward for the Sigma test.

At the second Conference, held from Nov. 20th to 25th, 1922, at the Pasteur Institute, Paris, reports on the results obtained up to date were presented by Prof. R. Müller, Vienna; Dr. G. Renaux, Pasteur Institute, Brussels; Prof. T. Madsen, State Serum Institute, Copenhagen; Prof. W. Kolle, Frankfort; Prof. H. Sachs, Heidelberg; Colonel Harrison, Dr. Wyler, and Prof. Dreyer and colleagues, England; Prof. L. Hirszfeld, Warsaw; and Dr. Gosiorowski, Lwow.

The reports showed some discordance between the different laboratories as to the relation of the different flocculation tests to the Bordet-Wassermann in point of delicacy, but there was fairly close agreement between the Danish, Belgian, and British results as regards the Sigma and the Bordet-Wassermann, and in the course of the Conference it became apparent that the Sigma test had been performed in these laboratories with closer regard to the directions of Dreyer and Ward than in the other laboratories.

Programme of Future Research.

The Conference agreed to continue the research on the lines indicated in the following resolutions:—

1. The comparison of the four tests shall be continued as follows:—

(*a*) The technique of the Bordet-Wassermann test carried out in the laboratories participating in the research shall be that which has hitherto been employed by them.

(*b*) The Sachs-Georgi test shall be carried out in the same number of tubes as hitherto, but two quantities of serum and one extract will be used, as determined by the sub-committee on technical details.

(*c*) For the purposes of this comparison the quantitative titre of the reaction obtained by the Sigma test shall be omitted. Only qualitative results will be considered.

(*d*) As concerns the Meinicke test, the following laboratories shall be invited to make further studies in consultation with Dr. Meinicke: Heidelberg, Prof. Sachs; Vienna, Prof. Müller; Copenhagen, Prof. Madsen.

(*e*) The laboratories participating in the entire research shall be invited to study comparatively the influence of the various factors in the tests, particularly variations in the antigen.

(*f*) It is understood that the research will be carried out on 500 cases in which syphilis has, as far as possible, been excluded and on 500 cases of syphilis. As many as possible of these cases should be in the early primary, in the latent, or in the tertiary stages of syphilis.

2. The State Serum Institute of Copenhagen will endeavour to collect 500 specimens of syphilitic serum and 500 of non-syphilitic. These specimens will each be divided into five equal portions, one of which will be sent to each of the following laboratories: In Germany (Prof. v. Wassermann), Great Britain (Colonel Harrison), Austria (Prof. Müller), Belgium (Prof. Bordet), Poland (Prof. Hirszfeld), so as to compare the results obtained by each of these laboratories employing their normal technique for the Bordet-Wassermann test.

Effect of the Paris Resolutions.

It will be seen from these resolutions that:—

1. The Sigma test is to be compared with the others in a form which is somewhat easier to carry out (five tubes instead of nine are to be employed). This is in view of the fact that the man-power expended on the performance of a given test is an important consideration when the question of its general adoption arises. In countries such as Great Britain where the public bears a high proportion of the cost of the serum tests for syphilis, the adoption of a test of which a smaller number per week could be performed by a given staff than of the classical Bordet-Wassermann test would require the payment out of rates and taxes of a proportionally greater sum for the service. Since the cost to the public of Wassermann tests in England and Wales is already about £36,000 per annum, this becomes an important, though naturally not an overwhelming, consideration.

2. Most of the laboratories participating in the research are relieved of the labour of comparing the Meinicke test which the preliminary investigation showed to be inferior in delicacy to the others.

On the other hand—

3. Research is to be instituted into the influence of extracts on serum tests for syphilis, and

4. A comparison is to be made of the methods of carrying out the Bordet-Wassermann test in representative laboratories in a number of countries. This is a repetition on a larger scale of a comparison instituted by the Medical Research Council in 1918 and reported in M.R.C. Special Report Series No. 21.

[1] THE LANCET, 1921, ii., 1331, 1339.

Altogether the impression derived from the two conferences already held by the Health Committee of the League of Nations is definitely encouraging. There can be no doubt that round-table discussion of such problems as that mentioned above by representatives of different countries is far more likely to secure uniformity of standards, without sterilising individual effort, than the exchange of volumes of articles on the subject by workers in different countries.

THE VOLUNTARY HOSPITAL SYSTEM.

A CONFERENCE convened by the Federation of Medical and Allied Services at its offices, 12, Stratford-place, London, W., took place on Nov. 30th, under the chairmanship of Lord ISLINGTON, a Vice-President of the Federation. The object of the conference was to hear and discuss the views of persons with special knowledge of the working of the voluntary hospital system regarding the possibility of securing the future financial stability of the voluntary hospitals which have been saved for the time being by a Parliamentary grant and by an exceptional demand on the generosity of the public.

The Present Position.

The CHAIRMAN, in opening the proceedings, said that the conference might be regarded as a continuation of many discussions that had taken place in recent years in regard to the best means of improving the financial position of London hospitals. There had been assembled that day a remarkably large gathering of representatives of some 112 metropolitan hospitals, who had met to discuss an extremely complex, difficult, and controversial subject. The general desire of all present, he assumed, was to devise methods and schemes of organisation which would have as their result the preservation of the voluntary character of the hospitals, and in that connexion the chairman or vice-chairman of every metropolitan hospital possessing 50 beds or more had been invited to attend. The problem was extremely urgent and acute; the crisis through which we were passing threatened the very existence of the voluntary system, and with it many of the most valuable institutions incorporated in that system. On the advice of Lord Cave's Committee the Government had given half a million pounds and the public had subscribed another half million, but in spite of these emergency grants many London hospitals were facing very heavy and serious deficiencies which caused the keenest possible anxiety to those who were administering the institutions. He thought that Parliament should be again invoked for a further grant to meet the necessity of the case, which was in the main due to the great increase in the upkeep of hospitals during recent years.

Much had already been done by collective and individual effort to meet the serious state of affairs, but to stabilise the hospitals what was required first and foremost was to establish and develop organisations which would ensure that every member of the community contributed his or her share in the upkeep of hospitals. In this connexion he alluded to an outline scheme for Manchester which had been sent to him and which he considered very fruitful and suggestive in character—a scheme which was worthy of the close attention and possible imitation of those interested in the subject in London. It embraced the whole of the workers in the city and the total collections amounted to many thousand pounds a year.

He considered it quite a reasonable suggestion that hospitals should be exempted from certain public liabilities, either in part or whole, such as rates and duties on legacies, and that individuals who gave considerable and regular donations to hospitals should be relieved to the extent of those donations from income-tax.

Dr. GORDON DILL, who opened the discussion, said that the hospital system as at present accepted was a thing unique, and would not be accepted in principle by a business man. It was necessary to seek suggestions for a policy which would relieve the hospitals from the anxieties attendant upon their haphazard and hand-to-mouth mode of life, and assure to them an income which would suffice not only to meet present difficulties, but also to provide for development and expanson. In the past "the poor" included the whole of the industrial and labouring classes who, as a rule, had a weekly wage of from 12*s.* to 25*s.* upon which to educate and bring up a family. These classes were recognised by the hospitals as their rightful patients, and they were still looked upon as the "poor," though their financfal position had altered. A distinction which was originally one of poverty and necessity had become a distinction of class. The necessitous did not constitute 25 per cent. of the patients at any hospital in these days, and yet hospital services were an ultimate necessity to the remaining 75 per cent. and could not be obtained elsewhere. Hospital patients were invited to make voluntary contributions, but the average of these contributions was at the most 12*s.* a week, or what in the ordinary course of things would have been spent on food at home. The balance had to be supplied from charitable funds.

The Problem and the Remedy.

The problem that lay before them was: How could it be made possible for the people to whom the hospitals were a necessity, but who were not themselves necessitous, to pay the out-of-pocket cost to the hospital of the services which they received. The only possible solution was that while in health they should individually become regular annual subscribers of a definite amount which would suffice collectively to pay for those of them who were admitted to hospital in the course of the year. And, wherever such a system was adopted, it must result in an increase, large or small, according to the number of subscribers, to the stable annual income of hospitals.

When any institution was making an effort to re-establish its financial stability the first step was to limit its activities to the amount of its assured income, which was mainly derived from the proceeds of endowments and from annual subscriptions. Both these sources of income had in the past been almost entirely provided by a small percentage of the class who did not themselves use hospitals, but there was a growing feeling among these people that they were no longer called upon to pay for those who are able to pay for themselves. The charitable public could, however, be assured that their money was still wanted not only for the poor but for research, convalescent beds, and other necessary objects which the hospitals could not now afford to pay for and the want of which was crippling their full efficiency. It was important, too, that the wealthy class should realise that the maintenance of hospital efficiency was of direct benefit to themselves inasmuch as it increased the expectation of life, immunity from the devastating diseases of the past, and added also to the skill and knowledge of the personal medical attendant and nurse.

It was not true that voluntary hospitals were extravagant, though there were one or two economies which were possible. The first was in connexion with the multiplicity and irregular distribution of the smaller hospitals, for it was a very debatable proposition whether all special hospitals dealing only with a particular part of the anatomy would not do quite as useful work—at less expense and to the advantage of their patients—as special departments of a large general hospital. A check should be placed upon the building of new hospitals without regard to the needs of the area in which they were placed, and there should be some selection with regard to out-patients, many of whom were well able to pay for the minor ailments for which they received hospital treatment. If the out-patient departments were made purely consultative, except in the case of the necessitous sick for whose relief they were established, a considerable economy would be effected. "But in this," concluded Dr. Gordon Dill, "as in all our policy, we should strive for

a closer identity of purpose, for a more intimate coördination of action, and however intense our individualism, however jealous our rivalry in efficiency, we shall do well to remember that we are, after all, but units in what is, perhaps, the most important branch of the great unorganised service which guards the nation's health."

Ways and Means.

Lord HAMBLEDEN said that the whole question might be divided under two heads: (1) How far it was possible to economise in the working of hospitals, and (2) how could the necessary funds for upkeep be provided. Practically speaking, he agreed with Dr. Gordon Dill that the expenditure, at the large hospitals at any rate, was not likely to decrease in the future, for his experience had shown that there was no finality in the requirements, certainly of the larger hospitals. Control by large organisations such as the King's Fund was a good thing in preventing expansion where it was not immediately necessary, while in regard to the question of out-patient departments he thought that a certain amount of good could be done by encouraging small local hospitals to work in coöperation with local practitioners. Letters for admission to out-patient departments should be encouraged from local doctors and cottage hospitals.

With regard to the income side of the question, so far as the country as a whole was concerned, and certainly as far as London was concerned, good had been done by the coöperation of the London Regional Committee of the British Hospitals Association, of which he was chairman. A good deal had been done in the way of interchange of information, and in some cases united action had been taken of great value to the hospitals. He instanced the influence which had been brought to bear on the approved societies in obtaining grants from the funds at their disposal. In the future hospitals would have to depend very much more on small subscriptions than they had done in the past. The hospital patient was much better off financially to-day than he was 12 or 15 years ago, and he was asked to pay something towards the cost of his maintenance, but that did not amount to more than 50 per cent. of the cost, while the cost of maintenance was £2 or more. If it were possible to get small weekly subscriptions from the patient before he came into hospital his contribution towards his maintenance would be larger.

Reference had been made to a Manchester scheme, but a scheme for London had also been propounded which had been under consideration during the past 15 months. This scheme had resulted in an incorporated association being formed, and the scheme could be launched as soon as agreement could be approached. As a matter of fact, quite a considerable proportion of the larger hospitals had already signified their assent. Unfortunately there were difficulties in the way, both as regarded medical staffs and lay committees, but these difficulties could, and he hoped would, be solved in the interests of the hospitals themselves. The future of the hospitals depended largely upon the extent to which they were prepared to coöperate among themselves. Apart from local subscriptions, there was always a benevolent section of the community who would subscribe and bequeath to the hospitals if they had confidence in the voluntary system, and it lay with the hospitals themselves to show that they could and would work together to make that system efficient.

General Coöperation Needed.

Sir ARTHUR STANLEY said that the ground had been so well covered by previous speakers that little remained for him to add. He entirely agreed with Lord Hambleden that the whole future of hospitals must rest on the coöperation among hospitals themselves. Hospitals would always be in debt, but the reason why we heard so much about the financial crisis was very simple. After five years of strenuous war there was a large amount of repairs and renewals to be done at a time which co-existed with high prices. But the wonderful efforts which the hospitals had themselves made had been rewarded with a great measure of success. Given a short time, he believed the voluntary system was perfectly capable of asserting itself, and the proof was the very sound findings of Lord Cave's Committee. That Committee asked the Government to provide a million pounds for two years, and if the Government had done that there would have been no need for the present meeting. While some hospitals would have to be helped, he believed that the ordinary general hospital which had a fair endowment and which set to work to see that administration was efficient and economical would in a short time be in a much better position.

Referring to the efforts made by the King's Fund in regard to a combined appeal, he said it would be a pity if out of that union of hospitals something could not be evolved in the nature of a regular income for hospitals. If once large hospitals were divested of the element of charity it would not matter what happened to the voluntary system. There was no reason why working men should not pay so much a week to a fund which could be drawn upon in time of need; the patient and the hospital would be helped and the spirit of thrift encouraged. That seemed to be the object of the Hospitals Savings Association.

Methods on Trial.

Mr. E. W. MORRIS, chairman of the London Hospital, said that 25 years ago a hospital bed cost something less than £2 a week, to-day it costs £5. If we were content to stop progress the cost could be brought back to £2 again. The reason why a bed costs £5 was that medical diagnosis and treatment had become extraordinarily complex. In a reminiscent sketch of the London Hospital 25 years ago Mr. Morris reminded his hearers of the wonderful evolution that had taken place in hospital treatment as proof of the increased cost per bed and asked: Is it worth it? a question which he answered in the affirmative but stated that it was beyond the power of charity to find the money. He complained that the Combined Appeal had resulted in a loss of money to his hospital, but supported the contributory scheme of the Hospitals Savings Association which had succeeded in the provinces. There were, however, other things that might be done and among them was the more economical use of beds. If the infirmaries would take all the hospital emergencies for a year it would give the hospitals a chance of working off their waiting lists. Beds were also wasted by nursing cases to a conclusion. The value of beds could be doubled if each of them had a sister bed outside for the patient in the convalescent stage. There must be more coöperation between hospitals which should help each other with waiting lists and emergencies. He would specially appeal for research work, and if the Hospitals Savings Association succeeded the hospitals would be largely relieved of the cost of purely curative work and income could be used in carrying the fight against disease forward.

Mr. F. W. DAVY, vice-chairman of the West End Hospital for Nervous Diseases (member of Executive Committee of the Associated Hospitals of Marylebone), said it would be a retrograde step if general hospitals should absorb special hospitals. Criticising the Hospitals Savings Association, he said there were fatal difficulties in connexion with it, though there must be some method of getting mass contributions. The almoner was the best person to deal with the patient's circumstances and such a system as that he had referred to would cause trouble with the medical staffs. In time it meant government by a body who formed a proportion of the patients. The working man could be educated up to understand that if he did not subscribe to the hospitals those institutions would not be at hand when he wanted them.

The meeting was a crowded one and included, besides those already mentioned—

Dame Sidney Browne, Mr. Alfred Langton, Mr. G. H. Monk, Miss M. S. Rundle, Mr. Joseph Meller, Sir William Lawrence, Mr. Howard Figgis, Mr. J. F. Mills, Sir Bernard Mallet, Mr. Reginald R. Grant, Mr. J. H. Teasdale, Mr.

Frederick Wood, Mr. Ashley B. Cook, Mr. Vernon Miles, Mr. James Bird, Mr. Arthur G. Ferard, Mr. Arthur Watts, Mr. R. J. Bland, Mr. A. Hoare, Sir James K. Fowler, Mr. J. Morton, Sir Charles Stone, Mr. W. Le Fanu, Mr. F. B. Elliot, Sir Walter R. Hearn, Miss R. H. Cheetham, Mr. G. H. Hamilton, Mr. W. S. Randolph Biss, Mr. J. A. McIntyre, The Countess of March, Mrs. Bruce Richmond, Lieut.-Colonel W. Parkes, Mr. Theodore W. Luling, Sir James Michelli, Mr. R. E. V. Bax, Mr. D. H. Lindsay, Mr. E. G. Thorne, Miss Imogen Murphy, Mr. Austin Taylor, Mr. Harry Machin, Mr. H. L. Eason, Mr. Burleigh, Mr. S. W. Drewett, Sir A. Kaye Butterworth, Dr. W. J. Howarth, Mr. G. Watts, Mr. Robert J. Mumm, Sir William Hale-White, Baron Emile d'Erlanger, Major Raphael Jackson, Mr. Kenneth M. Walker, Mr. G. A. Panter, Mr. W. H. Reed, Mr. Harold Wigg, Sir I. Hamilton Benn, Mr. Thomas Clapham, Mr. H. H. Jennings, Mr. Richard Coles, Mr. H. Rutherford, Dr. Charles Buttar, Dr. R. W. Bruce, Mr. Henry Lesser, Sir Percy Bassett-Smith, Colonel F. B. Mildmay, and Sir Malcolm Morris.

The proceedings terminated with a vote of thanks to the chairman.

PROFESSIONAL CONDUCT UNDER THE DENTISTS ACTS.

THE interim period prescribed by the Dentists Act, 1921, having expired on Nov. 30th and the Dentists' Register being now complete, the Dental Board of the United Kingdom has taken the opportunity of issuing a memorandum to guide the professional conduct of those upon the Register and the relation of registered medical practitioners to them. The notice has been drawn up by the Board after consultation with the General Medical Council.

Professional Misconduct.

It is enacted by Section 13 of the Dentists Act, 1878, as amended by Section 8 of the Dentists Act, 1921, that :—

> Where a person registered in the Dentists' Register has, either before or after he is registered, been convicted in His Majesty's Dominions or elsewhere of an offence which if committed in England would be a felony or misdemeanour, or been guilty of any infamous or disgraceful conduct in a professional respect, that person shall be liable to have his name erased from the Register.
>
> The Board may, and on the application of any medical authority shall, cause an inquiry to be made into the case of a person alleged to be liable to have his name erased under this Section, and if the Board on any such inquiry are satisfied that the name of that person ought to be erased from the Register, they shall forward a report to the General Medical Council setting out the facts proved at the inquiry and the finding of the Board.
>
> The General Medical Council, after receiving any such report, and after hearing any observations which the person affected or the medical authority may desire to make with reference to the report, may make an order directing the Registrar to erase from the Register the name of the person affected.
>
> Provided that the name of a person shall not be erased under this Section on account of his adopting or refraining from adopting the practice of any particular theory of dentistry or dental surgery, or on account of a conviction for a political offence out of His Majesty's Dominions, or on account of a conviction for an offence which, though within the provisions of this Section, does not, either from the trivial nature of the offence or from the circumstances in which it was committed, disqualify a person from practising dentistry.
>
> Any name erased from the Register in pursuance of this Section shall also be erased from the list of licentiates in dental surgery or dentistry of the medical authority of which such person is a licentiate.

Certain forms of professional misconduct are particularised, but the Board wish it to be clearly understood that these are not intended to constitute a complete list of the offences which may be punished by erasure from the Register. By issuing this notice neither the Board nor the Council are precluded from considering and dealing with any form of professional misconduct—as, for example, the giving of false certificates or immorality involving abuse of professional relationship—which may be brought before them. Circumstances may and do arise from time to time in relation to which there may occur questions of professional conduct in respect of which no warning notice has been issued. In such instances, as in all others, the Board and the Council have to consider and decide upon the facts brought before them.

Unregistered Assistants and Covering.

Section 14 (2) of the Dentists Act, 1921, is as follows :—

> For the purposes of this Act, the practice of dentistry shall be deemed to include the performance of any such operation and the giving of any such treatment, advice, or attendance as is usually performed or given by dentists, and any person who performs any operation or gives any treatment, advice, or attendance on or to any person as preparatory to or for the purpose of or in connexion with the fitting, insertion, or fixing of artificial teeth shall be deemed to have practised dentistry within the meaning of this Act.

The practice of dentistry except by persons registered in the Dentists Register or in the Medical Register is prohibited by the Dentists Act, 1921, and any person who contravenes this provision is liable to be summarily convicted and fined. Accordingly, the employment by any registered dentist in his professional practice of an assistant who is not registered either in the Dentists Register or in the Medical Register, if he is permitted to practise dentistry and in particular to do any of the things specified in the Section quoted above, is contrary to law; and any registered dentist who has so acted renders himself liable, on proof of the facts, to have his name erased from the Register. Similarly, any registered dentist who by his presence, countenance, advice, assistance, or coöperation has knowingly enabled an unregistered person, whether described as an assistant or otherwise, to practise dentistry or to do any of the things specified in the Section quoted above, renders himself liable, on proof of the facts, to have his name erased from the Register.

Advertising and Canvassing.

The practices (*a*) of advertising with a view to procuring patients, or of sanctioning, or of being associated with or employed by those who sanction, such advertising; and (*b*) of canvassing or employing any agent or canvasser for the purpose of procuring patients, or of sanctioning, or of being associated with or employed by those who sanction, such employment, are in the opinion of the Board and of the General Medical Council contrary to the public interest and discreditable to the profession of dentistry; and any registered dentist who resorts to any such practice renders himself liable, on proof of the facts, to have his name erased from the Dentists Register.

Use of Titles and Descriptions.

Section 4 of the Dentists Act, 1921, is as follows :—

> A person registered under the principal Act (*a*) shall, by virtue of being so registered, be entitled to take and use the description of dentist or dental practitioner; (*b*) shall not take or use, or affix to or use in connexion with his premises, any title or description reasonably calculated to suggest that he possesses any professional status or qualification other than a professional status or qualification which he in fact possesses and which is indicated by particulars entered in the Register in respect of him.

Any registered dentist who may have infringed the provisions of this Section renders himself liable, on proof of the facts, to have his name erased from the Register.

The Prescribed Examination.

Any person who has obtained registration in the Dentists Register in virtue of having passed the prescribed examination under the Dentists Act, 1921, is warned against making use of any words or abbreviations calculated to give the impression that registration has been obtained by passing a qualifying examination, or that any such person has been admitted to the prescribed examination as a student of a recognised hospital or school. Any person who may have so acted renders himself liable, on proof of the facts, to have his name erased from the Register.

GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, NOV. 28TH.

As we indicated last week, the Council considered six penal cases during the first afternoon of the recent session. The decisions were arrived at, as usual, in camerâ, and later announced publicly. The cases were briefly as follows:—

The Case of W. B. Kolsa-Walla.—This case was adjourned from the May session, at which the Council found that the defendant had, by seeking to attract panel patients of another practitioner to himself by personal visits and interviews, acted in a manner contrary to the public interest and discreditable to his profession. Mr. Kolsa-Walla attended. He had sent various testimonials as to good general character, and two from professional brethren in the neighbourhood of his former practice. The Council did not see fit to direct erasure of his name from the Medical Register.

The Case of William Young.—This case was adjourned from the May session, when the Council found that several convictions of misdemeanours relating to drunkenness when in charge of a motor-car had been proved against William Young, registered as of Inverdeen, Usworth, Durham. Mr. Young did not attend and was not represented, nor had he replied to communications addressed to him. The Council directed that his name be erased from the Medical Register.

The Case of Sydney Firth.—Sydney Firth, registered as of Corner House, Ropsley, Grantham, was convicted at Lincoln Assizes on June 27th, 1922, of four felonies, relating to operations with intent to procure miscarriage in four different women, and was sentenced to seven years' penal servitude. The Council directed that his name be erased from the Medical Register.

The Case of Averyl Harcourt.—Mrs. M. Averyl Harcourt was convicted on various dates in 1918, 1921, and 1922, at Marylebone police-court and Hampstead Petty Sessions of obstruction of an officer of the sanitary authorities in the execution of his duties under the Public Health Act, and of insulting behaviour. Mrs. Harcourt attended and admitted the facts of the convictions, afterwards addressing the Council on her own behalf. The Council did not see fit to erase her name from the Medical Register.

The Council postponed judgment on three cases till the November session, 1923, and added the usual proviso with reference to character and conduct in the interval. All the defendants undertook to be abstainers in the future.

The Council then adjourned.

WEDNESDAY, NOV. 29TH.

The Council resumed the consideration of penal cases.

The Case of David Arnold Chaning Pearce.—David Arnold Chaning Pearce, registered as of 7, Hoptonroad, Streatham Common, S.W. 16, was found guilty of adultery with a married woman, with whom and with whose family he stood in a professional relationship, by decree of the Probate Divorce and Admiralty Division (Divorce) of the High Court of Justice dated March 28th, and made absolute Oct. 4th, 1922, in the case of Cooke *v.* Cooke and Pearce, in which he was co-respondent. The Council directed that his name be erased from the Medical Register.

The Case of Samuel Leon Szpigner.—Samuel Leon Szpigner, registered as of 100, Commercial-road, E. 1, was summoned to appear before the Council on a charge of infamous conduct in a professional respect.

The Council considered this case in camerâ.

The Council then adjourned.

THURSDAY, NOV. 30TH.

Restorations.

The Council deliberated certain matters in camerâ, and strangers having been readmitted, the PRESIDENT announced that the Registrar had been directed to restore to the Medical Register the name of William Herbert Fawcett, and that, on a report from the Dental Board, the Council had also directed the restoration of three names to the Dentists Register.

Dental Warning Notice.

The PRESIDENT further announced that the Council had approved the new warning notice[1] submitted by the Dental Board, in substitution for the notices previously approved.

Report of Dental Education and Examinations Committee.

The Council approved this report, of which a summary will appear in THE LANCET.

FRIDAY, DEC. 1ST.

Reports of Committees.

The Council received, and where necessary approved, the reports of the Education, Examination, Public Health, Pharmacopœia, and Students' Registration Committees. These reports will be summarised in THE LANCET. The Students' Registration Committee now ceases to exist, having handed over its duties to the Education Committee.

The late Sir Norman Moore, Bart.

The PRESIDENT expressed the deep regret of the Council on learning of the death of the late treasurer, Sir Norman Moore. The Council stood to pass a vote of deep condolence to Sir Norman Moore's family.

Election of Treasurer.

Sir George Newman was elected treasurer in place of the late Sir Norman Moore. The elections to committees will be detailed later.

Indirect Advertising by Medical Practitioners in the Lay Press.

Dr. BOLAM moved—

"That it be remitted to the Executive Committee to consider and report upon the prevalence of oblique, or indirect, advertising by medical practitioners in the lay press."

Dr. Bolam said that the terminology of the motion might be open to question, but that its object would be understood—namely, to elicit in some way a pronouncement from the Council on certain developments in advertising, chiefly in the lay press, of late years. There was a danger if this were allowed to continue of a serious undermining of the traditions of the profession, which would lower them in the eyes of the thinking lay public. Any action which the Council saw fit to take in the matter should not include a retrospective review. If no definite warning had been given beyond that contained in the warning notice, to the effect that certain modern journalistic developments might be included under the terms of that warning notice, it would not be fair to pillory members of the profession who had perhaps been led into actions to which objection might be taken by the actions of others in the profession. Therefore, Dr. Bolam continued, he considered it within his province to comment, without explicit reference to names or addresses, upon certain things which he had noticed, many of them within the past few months. If the Council should make a pronouncement and issue a notice it would thus be open to anyone outside to forward information on which the Council might take action in a disciplinary sense.

Dr. Bolam then read portions of the resolution adopted by the Council on Nov. 27th, 1905, the full wording of which is as follows:—

Whereas it has from time to time been made to appear to the General Medical Council that some registered medical practitioners have, with a view to their own gain and to the detriment of other practitioners, been in the habit of issuing or sanctioning the issue of advertisements of an objectionable character, or of employing or sanctioning the employment of agents or canvassers, for the purpose of procuring persons to become their patients: And whereas in the opinion of

[1] See the present issue of THE LANCET, p. 1242.

the Council such practices are contrary to the public interest and discreditable to the profession of medicine: The Council hereby give notice that any registered medical practitioner resorting to such practices thereby renders himself liable to be charged under the twenty-ninth section of the Medical Act, 1858, with "infamous conduct in a professional respect," and if after due inquiry he is judged by the Council to have been guilty of such conduct the Council may, if they see fit, direct his name to be erased from the Medical Register.

It was not his intention, Dr. Bolam continued, to speak of canvassing, and the Council had on the previous day adopted a notice which would direct the attention of the dental profession to what were regarded as unprofessional actions in this connexion. At the present day advertisements were rarely so blatant as the handbills used in former times to commend the attainments of any special doctor. Such advertisement did occur in certain walks of professional life, but were extremely rare since the Council's action 17 years ago. However, other more subtle and oblique methods of advertisement had gradually crept into public life. He would refer to these, not in detail, but roughly in the order of their gravity. First there was the practice of inserting in a well-known column of the daily papers (sometimes called the "Court Circular"), in which advertisements might be inserted at special and often enhanced rates, statements in personal paragraphs relating to deaths and marriages. Some deceased person might be referred to as a relative of So-and-So, the "well-known physician"; or in connexion with a marriage which was contemplated or which had occurred, the qualifications and professional status of a medical man might be set out. Such details were not necessary. Another form of the same thing was found in paragraphs relating to absence from home for reasons of health or convalescence. Objection might also be taken to the announcement that So-and-So had returned home or changed his address, even the telephone number sometimes being given. These might be considered matters rather of taste than of definite offence, but they must be taken into consideration. Then there were cases where medical men were advertised, unwittingly or with their own consent, in the correspondence columns of the lay press, where they might express their opinions on general subjects. Some only signed their names, appending no medical qualification or giving only a vague address, but in other cases a definite appearance of intention to advertise was given. He had press cuttings, obtained through an agency, which gave examples of both these types of advertising. Another type was advertising in connexion with patients; a prominent member of the Government of this country, being in ill-health, was reported to have consulted "two very eminent" members of the profession, and the assurances given by one of these gentlemen—who was named—were published. Again, a Parliamentary candidate was advised to give up his candidature on grounds of health, and the name of his medical adviser was stated. Then, coming to cases of more or less direct advertisement, one example was where a doctor advertised that he received patients at a certain address and that certain advantages were to be received there for a specified fee, a box number reference being adopted and no name stated. In the past few months he had seen 15 or 16 examples of press interviews given by general practitioners, who had related experiences ranging from those of doctors on liners at sea, including operations conducted by wireless, to the combating of epidemics. Portraits sometimes accompanied articles on such subjects as cancer, in which connexion a general practitioner might be described as an "expert." A member of the profession might be reported to have returned to London with certain apparatus not in the possession of other medical men in this country. All branches of professional work were included in these new forms of advertising; psychotherapy was no exception. Women doctors were not exempt from journalistic indiscretions. A more serious kind of advertising was the contribution by medical men of articles on a specific topic, the writer of which might refer to his "extended and unusual experience of this type of work." Sometimes a series of as many as six articles, mostly with portraits, were found. A recent painful example of this type was written by one medical man about another; he (Dr. Bolam) thought that were the writer examined by counsel to whom the Council had listened on the previous day, it would be made evident that that article was either inaccurate or inspired by the subject himself, about whom serious claims were made in connexion with both the medical profession and the public. The lay reader would not be able to resist the conclusion that the latter gentleman had superlative attainments. Personal details were entered into in the article, which was a very regrettable publication, and it was a matter of regret that no disclaimer had been issued. In conclusion, no medical practitioner should be prevented from taking part in public life; but when so taking part there was no need for the mention of medical qualifications. The editor of a lay paper should accept responsibility to the public for the standing of his medical contributors. The lay press would gain an advantage greater than at present if the publication of names were thus dispensed with; more medical men would write if they knew their names would not be bandied about in the public press.

The PRESIDENT asked if Dr. Bolam intended to adhere to the exact terms of his motion. The Council appreciated Dr. Bolam's discretion; had names been mentioned the members of the Executive Committee would have been debarred from taking part in any future proceedings arising from action on their recommendation. He suggested an alteration in the motion as follows:

> That it be remitted to the Executive Committee in consultation with the legal advisers to consider and report upon the expediency of amending the Council's warning notice with respect to canvassing and advertising so as to make its scope more clear and comprehensive.

Dr. BOLAM accepted the President's alteration.

Prof. H. LITTLEJOHN seconded the altered motion.

Sir JENNER VERRALL said that the chief duty of the Council was towards the public, but a secondary duty was to protect one medical man from results of unprofessional action on the part of another. Those who advertised might be good practitioners and specialists, but men of inferior capacity might take the same line of action, and the public would suffer. He hoped the Council would bring the matter to a definite issue.

Sir GEORGE NEWMAN was warmly in sympathy with the resolution, but doubted if it was sufficiently wide to apply to the public service. Would the Executive Committee be empowered to make the inquiry sufficiently wide to include the publicity action of men in the public service? There was much that was not actually canvassing or advertising which was nevertheless undesirable.

The PRESIDENT thought that the existing notice was sufficiently wide to meet the difficulty referred to by Sir George Newman.

Dr. MACDONALD expressed himself as grateful for the recasting of the resolution. Some prominent men allowed their names to be associated with pamphlets advertising foods and medicines: often the association was without their knowledge. These cases should be dealt with.

Mr. E. B. TURNER said that the thanks of the Council were due to Dr. Bolam. He contrasted the practice in former times of publication in the press of amplified reports of the illness of prominent persons, containing references to the doctors attending the case and to their expressed opinions, with the modern, and, in his opinion, worse form of publicity now under discussion. Certain names of medical men continually recurred in the lay press.

Sir E. COEY BIGGER pointed out that there were difficulties to be overcome—for example, the presentations of public testimonials to medical men, and personal references made at public meetings.

Dr. BOLAM added that he hoped the Council would deal with the case of special directories and lists, in which certain professional men allowed their names

to appear in leaded type; this was a very objectionable practice.

The resolution was adopted unanimously.

SATURDAY, DEC. 2ND.

The Case of Samuel Leon Szpigner.

The Council held protracted sittings in camerâ for the consideration of this case, at the conclusion of which the Council announced that the Registrar had been directed to erase the name of Samuel Leon Szpigner from the Medical Register, it having been proved to the satisfaction of the Council that he had several times had improper relations with female patients, constituting infamous conduct in a professional respect.

HEALTH REFORM IN IRELAND:
DEBATE IN THE DAIL.

(FROM OUR OWN CORRESPONDENT.)

AN important debate on the subject of the reform of the health services took place last week in Dail Earann. The question was raised on the motion for adjournment by Sir James Craig, one of the members for Dublin University, and ex-President of the Royal College of Physicians.

Sir James Craig pointed out that while there had been considerable sanitary progress in Ireland, much still remained to be done. He congratulated the Local Government Department on the steps it was taking to keep small-pox out of the country. He referred to the establishment of the Irish Public Health Council and the useful work which it could carry out under a proper system of coördination. The Council recommended the necessity for centralisation, and that this should take the form of a Ministry of Health. He would not press that in view of the present state of the country's finances, and would be content if the work were to be carried out under one Minister. It was also recommended that each county or group of counties should have a superintendent medical officer of health. One of the most important recommendations was that the present dispensary doctor should be entirely removed from the workhouse system, and should form part of a medical service. There was also a suggestion that there should be a hospital or home in each district. The medical service should be entered by competitive examination. He hoped the Local Government Department would encourage the establishment of ladies' committees, whose usefulness would be demonstrated in seeing to nursing arrangements.

Mr. O'Connell, a Labour Member, said it was not sufficiently recognised that Ireland was alone in neglecting the medical inspection of school-children.

In his reply, Mr. Ernest Blythe (Minister of Local Government) said a beginning had been made with the centralisation at headquarters. Of the four main offices concerned with public health, three—Inspector of Lunatics, Registrar-General's Office, and the Medical Section of the Local Government Board—were now included in the Ministry of Local Government. The Insurance Commission must wait. In local administration the boards of guardians had disappeared; whether the district councils would follow them remained to be decided. If rural district councils were abolished the entire administration of public health would fall to the county councils and their committees. That was under consideration, and the whole matter would be before the House next year. State Medical Service must be considered, as well as extension of medical benefits to Ireland. The Public Health Council was in a state of suspended animation; it was intended to have an advisory body of that nature, but whether the Council would be continued had not been decided. The Bill being prepared was a temporary measure to legalise the work of amalgamation and Poor-law reform carried out during the past few years. Permanent legislation would then be considered for the reform and improvement of local administration, including public health. The failure to do anything in connexion with the inspection of school-children was due to the abnormal times.

In comment on the position of the Government it may be said that their anxiety to legalise the changes that have been made by temporary legislation is easily intelligible. Up to the present there was no authority behind these reforms except administrative authority, which was exercised ultra vires from the legal point of view. Those anxious for reform will, however, feel some uneasiness lest the passing of temporary legislation, such as that outlined by the Minister, may postpone indefinitely the tackling of the problem of health reform as a whole. It will be necessary to keep the Government to the promise given by Mr. Blythe that permanent legislation of a wide character will follow. It is good news that the Government intends to make use in future of some such advisory body as the Irish Public Health Council. Whether the existing Council is reconstituted or a new body is to be set up is not a matter of fundamental importance, so long as it is understood that a new body would be at least as representative in character as was the Health Council. The revival of the old Council would, however, have some conveniences, in that its members are familiar with the problems that have to be solved, and they have already travelled over the ground. If it is to be re-established, there are several vacancies to be filled, as two of the official members are no longer in the public service, and four of the non-official members are resident in Northern Ireland, which is hardly likely to form part of the Free State in the immediate future.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Shortage of Foreign Scientific Journals in Germany.

ON the outbreak of war periodicals from enemy States ceased to come to Germany, and later, as country after country entered the war, only a few scientific papers from neutral countries (Switzerland, Holland, Scandinavia) reached us. During the war and until recently the last issue of THE LANCET exhibited in the reading-room of the State Library was that of July 25th, 1914. When, after five years, postal and commercial relations were re-established the depreciation of the currency made it very difficult not only to complete the series of volumes interrupted by the war, but also to subscribe for more than a very few foreign scientific periodicals. The Prussian State Library, which before the war had subscribed for 2500 foreign scientific journals, reduced that number to 150. It became, therefore, almost impossible for a German scholar to keep himself informed of foreign scientific work. Those drawbacks led to the establishment of an organisation, the so-called "Notgemeinschaft der Deutschen Wissenschaft" (Emergency Association of German Science)—a combine of German scientific institutions, laboratories, libraries, publishing houses, &c., supported by State and private means, and also by chemical and electrical firms and others materially interested in the progress of German science. Friends of German science living abroad must also be mentioned; as early as 1919 Prof. Boas, of New York, and others in America founded a society to assist European science, which provided German libraries with American and English scientific literature. Other countries, especially Sweden and Denmark, followed that example by facilitating the exchange of scientific literature with Germany. The Notgemeinschaft, which is managed by Dr. Schmidt, former Prussian Minister of Education, has the following aims: (1) to secure to libraries the volumes of foreign periodicals issued during the war and to allow them to subscribe now for those periodicals; (2) to secure the publication of German scientific papers and books, which without financial support must have been abandoned; (3) to provide laboratories with chemical and physical apparatus; (4) to support savants in scientific work requiring financial means. As it is quite impossible to purchase for every library all the foreign literature subscribed to before the war, the Notgemeinschaft has undertaken to distribute the scientific papers on a certain plan, so that at least one copy of every periodical taken before the war may be found in Germany. Several copies of the more important papers are, of course, obtained; Dr. Jürgens, head of the library department of the Notgemeinschaft, informs me that 15 copies of THE LANCET are

purchased and distributed to the libraries of Germany. Only one copy of the volumes which appeared during the war was, however, obtained; this is now kept in the Prussian State Library in Berlin. This library is, therefore, the only public library in possession of the complete set of THE LANCET. About 500 German libraries are connected with the Notgemeinschaft. During the war no less than 70 medical papers were compelled to close down for want of means: this number will probably grow owing to the increasing cost of paper and printing.

Cost of Medical Drugs.

Together with the general increase of prices the cost of drugs has risen enormously. Not only drugs coming from abroad, where the rise of the price is quite natural, but also our German drugs have become very expensive. Prof. Müller, a Berlin pharmacologist, gives the following table of prices of different drugs, comparing the prices of 1914 with those of July and October, 1922, respectively. In this connexion it may be remembered that previous to the war one mark was equal to one shilling. The following table shows the comparative cost in marks of various drugs in Berlin in 1914 and 1922.

Quantity and drug.	1914.	1922.	
		July–October.	
100 g. carbolic acid	0·55	16·00	53·00
1 g. silver nitrate	0·20	11·00	84·00
1 g. quinine	0·15	28·30	118·00
1 g. cocaine	0·50	87·00	309·00
10 g. iodine	0·95	72·00	344·00
1 g. morphine	0·15	7·40	27·50
100 g. castor oil	0·35	19·00	90·00

Other drugs have shown the following increase in cost from 1914 to 1922: veronal (10 tablets) 2·25 to 100 marks; aspirin (20 tablets) 2 to 86; digipuratum (12 tablets) 1·50 to 75; and so on. The above table shows the remarkable rise in prices during the three months from July to October of this year. Since its publication a new and considerable increase has taken place. It has become wellnigh impossible for middle-class patients to buy medicine at a chemist's, and the sick clubs, although chemists give them a discount, also suffer greatly from the enormous increase in prices.

Holiday Exchanges between Medical Men.

Travelling having become very difficult for the average medical man, not only because of the expense of fare and lodging, but also because of the cost of a trustworthy locum-tenens, a Berlin doctor, Dr. Schiftan, has organised a plan for helping his professional brethen in this matter. Starting with the idea that country medical men often desire to spend some weeks in a large town, whilst medical men residing in towns are, of course, desirous of going for a holiday to the country, he has arranged for a kind of exchange between the categories. Practice being, as a rule, rather slack during the travelling season, the town and country practitioners may change their homes and practice during the holidays, one acting as locum-tenens for the other. Medical men wishing to exchange are registered in the organ of the Aerztevereinsbund (the Practitioners' Association), the *Aerzte-Vereinsblatt*, which every member of the association receives twice a month. The printed register states the residences of the medical men in question without giving their names; when an offer suits a medical man he may apply to Dr. Schiftan for further particulars. They are then put in touch with each other in order to settle the details of the arrangement. Dr. Schiftan's office is honorary, and he does not interfere. By this arrangement a medical man during his holidays need no longer worry as to what would become of his practice. In the register of the September issue of the above journal, for instance, the following offers of exchange are contained: Hamburg medical man wishes to exchange with a medical man residing in mountain district. Medical man residing near Kissingen is desirous of spending some weeks in Berlin. Hanover medical man wishes to exchange with medical man in Bavaria. Medical man of the Fichtelgebirge wishes to act as locum-tenens of an assistant in a surgical department of a hospital. The register, started in July, contained in September 139 names of medical men, of whom a good many are stated to have made arrangements for an exchange.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Problem of Hospital Staffs.

IN a paper read recently before the Medical Society Prof. Holzknecht pointed out the present difficulty in the selection of young doctors eligible for the posts of house physicians and house surgeons in public hospitals and clinics. Owing to pressure of numbers, and also, perhaps, from motives dictated by democratic sentiment, the hospital doctors' organisation drafted a series of demands, which were accepted by all hospital authorities. These demands provided for certain fixed numbers of resident medical officers, which could be changed only with great difficulty. These officers must be advanced automatically, according to the number of their application; a professor or head of a department may not select the man whom he thinks most fit for the post, but he must take the man whose turn it happens to be. The house surgeon or physician serves a certain time in a ward, and then gives way to a successor. This system is viewed with great suspicion by older members of the profession: it gives every man a chance to learn something, but it neither gives the best man the best chance, nor promotes the interests of the patients in the wards, nor tends to increase the personal interest of the head of the clinic or ward in his assistants or internes. The medical faculty is endeavouring to overturn this bureaucratic system, hitherto without much success, as the organisation of younger medical men is very powerful, and all its members naturally welcome the opportunity of gaining clinical knowledge. The present system of selection and service is not devoid of advantages, but it seems to many to be a change for the worse.

Left-handedness amongst Children.

Dr. Neurath has made an extensive study of left-handedness in children, and in a paper read before the Society of Doctors in Vienna he discussed the results of his researches. He defined left-handedness as the customary predilection of the left hand for purposes for which the majority of people use the right hand. There is no doubt that in these persons a functional preponderance of the right hemisphere of the brain is present, as shown by pathological processes displayed at necropsies. Although in left-handed persons the left leg and the left facial muscles are, as it were, "better off," it is not certain that the anatomical structure of the right hemisphere is different from that on the left. The condition is often already marked in infancy, but later it generally disappears or is masked, owing to education and to the use of instruments intended only for right-handed use. In the Bible it is stated that the condition was common to the whole tribe of Benjamin. It is certain that in former times the left hand was more used generally than at present. Writing from right to left is frequently quoted in this connexion. Amongst peoples of a low cultural standard the condition is very frequent; in Celebes and the Punjab 70 per cent. of the population are said to be left-handed. In the German army Dr. Stier found 4·6 per cent. of left-handed men, and in the Austrian army Dr. Mattauschek found over 1 per cent., but amongst the Mahomedan soldiers of the former Austrian Empire the proportion was 7 per cent. Of the Austrian civilian population, 2·9 per cent. are said to be affected in this way. Dr. Neurath examined 70,000 children in the Viennese schools, and found about 3·85 per cent. of them to be left-handed; the

ambidextrous were also classified under this heading. No connexion could be found between left-handedness and mental inferiority, although in the schools containing none but backward children 12·4 per cent. were left-handed. It was sometimes stated that the left-handed children learned to talk later than others. Stammering or stuttering was found no oftener among the left-handed than amongst the right-handed. As regards heredity, the mothers of left-handed children were often "latent left-handers" themselves. Genealogical studies relating to private patients had convinced Dr. Neurath that transmission from parents or grandparents is frequent, and mostly on the female side. The left-handed, he believed, were not degenerate; they were merely variations, a little handicapped by their condition, because of the prevalence, in present times, of right-hand instruments, customs, and work. The ætiology of left-handedness is a subject for much speculation. It was not yet known, Dr. Neurath stated, whether intra-uterine pressure, pre-natal or post-natal effects of posture, or variations of brain circulation may be held responsible for the condition. From an educational standpoint it was inadvisable to promote an ambidextrous habit; a child should be educated to make use of the right hand in the customary way, although the left hand should not, of course, be neglected.

Vienna Summer Health Report, 1922.

The recently-published quarterly report of the Board of Health shows that normal health conditions are gradually being regained. No case of hunger œdema has been recorded for six months. The number of tuberculous children is constantly diminishing, although the figure is still above the pre-war level. Whilst from 1917 to 1919 the chief increase in mortality was among infants and children, as well as of the aged, infantile, and child mortality, in spite of the regular summer rise of the death-rate due to enteritis, now constitutes a much smaller percentage of the total of deaths. The death-rate of aged people (70 and above) also shows a decline. The summer of 1922 (till the end of September) was remarkable for its low morbidity. Although the weather was not very bright there was an excess of rainfall of over 27 per cent. over the average—general health conditions were quite satisfactory; summer diarrhœa was scarce, and September was one of the healthiest months on record during the past ten years. In fact, were it not for a marked frequency of tonsillitis, it would have been the healthiest of all. But a marked, although slow, increase of pathological conditions of the circulatory system is observed all over the country, especially amongst males, whilst there is also an increase in diseases of the nervous system. Affections of the respiratory tract still constitute the largest percentage of total morbidity.

Deaths in the Medical Profession.

The medical faculty of Vienna has recently lost two of its oldest members, of whom one at least was well known all over the world—namely, Prof. Heinrich Obersteiner, the learned neurologist, who was born in 1847 in Vienna, and soon after completing his studies turned his attention to the problems of the nerve-tissues. When 20 years old he published his first paper on the pathology of nerves, and every year since that time he continued to contribute one or more important works to the subject. In 1882 he founded, at his own expense, the Vienna Neurological Institute, which served as a model for numerous similar institutions in many countries. Obersteiner was the first to define the pathology and ætiology of tabes. His opinions on concussion of the medulla and on general paralysis of the insane, and his studies on heredity in nervous diseases are still pre-eminent. His name became best known through his text-book on neurology (1896), which was translated into French, English, Italian, Russian, and Japanese. Prof. Obersteiner was always prepared to assist any of his students in all their personal or professional difficulties; he gave his great library of over 50,000 volumes to the Neurological Institute, and endowed the latter with capital sufficient to ensure its permanent working. The other death was that of Prof. Albert Bing, an aural surgeon, well known in former days. Bing was one of the pioneers of otology, and with Gruber, Pollitzer, and Urbantschitsch he taught and practised his specialty in Vienna at a time when in other countries this part of medical knowledge was scarcely noticed. His text-book on this subject was at one time an important manual.

Decrease of School-Children in 1921.

The Vienna magistrates have lately published a report on the number of school-children attending the (compulsory) public schools in the city in 1921. On Oct. 15th of that year there were 171,174 pupils (84,296 boys, 86,878 girls), or 6 per cent. less than in 1920. There were 119,246 younger than 10 years, and 51,928 between 10 and 14. They were distributed in 5046 classes, so that on an average a class contained 34 children; no class contained more than 45. On the same date of this year (1922) a similar census was taken. The drop in numbers was even more marked, being 12 per cent. less than in 1921; the decreased numbers were especially marked in the lowest standards (children 6 and 7 years of age). In some districts no more than 10 or 15 children were sent into these lower forms, so that some classes had to be united in order to provide reasonable work for the teachers. This is the first year in which the full effect of the war has been felt in the schools; in 1915, of course, a large proportion of the male population was already on active service.

The Services.

INDIAN MEDICAL SERVICE.

THE Secretary of State for India announces that appointments of Europeans, to the number of not more than 30, are to be made in the immediate future to commissions in the Indian Medical Service on special terms, which include the right to retire on a gratuity of £1000, with free return passages, on the completion of five years' service, if the officer no longer desires to remain in the Service. Candidates must be under 32 years of age.

Service as an officer during the war counts for pay, promotion, and pension purposes, under the ordinary conditions, but not for gratuity. Officers will receive on appointment free passages to India for themselves and their families. Full particulars may be had on application to the Secretary, Military Department, India Office, Whitehall, S.W., and envelopes should be marked "Medical Recruitment."

ROYAL NAVAL MEDICAL SERVICE.

Surg. Lt.-Cmdr. G. F. B. Page is allowed to withdraw, with a gratuity.

Surg. Lt. F. H. Vey to be Surg. Lt.-Cmdr.

ROYAL ARMY MEDICAL CORPS.

Lt.-Col. R. McK. Skinner retires on ret. pay.

Capt. J. H. Ward retires, receiving a gratuity, and is granted the rank of Lt.-Col.

Temp. Capts. R. W. Harper and J. B. Taylor (retain the rank of Capt.) relinquish their tempy. commns.

ARMY DENTAL CORPS.

Temp. Capt. J. S. Smith, Dental Surg., from Spec. List, to be Capt.

ARMY RESERVE OF OFFICERS.

Lt.-Col. E. A. Bourke ceases to belong to the Res. of Off. on account of physical unfitness.

Capt. A. L. Urquhart resigns his commn.

Army Dental Corps.—The undermentioned Capts., late Spec. List, to be Capts.: D. Gilmour, E. B. Armitage, T. B. Place, R. M. Wormald, J. Harris, B. J. T. Bennette, V. R. Dyke, R. A. Gunn, J. Stevens, and R. V. Kingham.

Lt. F. E. S. Brailsford, late Spec. List, to be Lt.

MILITIA.

Capt. W. R. Gardner to be Maj.

Capt. C. Shaw-Crisp relinquishes his commn. and retains the rank of Capt.

TERRITORIAL ARMY.

Maj. C. S. Wink, from T.A. Res., to be Capt., and relinquishes the rank of Maj.

Maj. A. Milne-Thomson, having attained the age limit, is retired, and is granted the rank of Col.

Capt. C. R. Crowther, having attained the age limit, is retired, and retains the rank of Capt.

Capt. C. G. Teall resigns his commn. and retains the rank of Capt.

The undermentioned offrs. relinquish their commns. and retain their rank, except where otherwise stated: Maj. G. E. St. C. Stockwell, Capts. I. C. Marshall (granted the rank of Maj.), H. W. Robinson, and W. Combe.

Lt. O. G. Misquith resigns his commn. and retains the rank of Lt.

TERRITORIAL ARMY RESERVE.

Lt.-Col. S. G. Barling, from General List, to be Lt.-Col.

Capts. T. C. Clarke and W. Sneddon, from General List, to be Majs.

Capt. H. W. Fethestone, from General List, to be Capt.

The undermentioned offrs., having attained the age limit, are retired, and retain their rank except where otherwise stated: Capts. J. W. Dale and J. O'Sullivan (granted the rank of Maj.), J. R. Holmes, J. Buckner, F. G. Bennett, G. Dick, and R. J. Isaac.

ROYAL AIR FORCE.

Squadron Leader J. F. Carruthers relinquishes his temporary commission on account of ill-health contracted in the Service.

Correspondence.

"Audi alteram partem."

THE DRAWBACKS OF CÆCOSTOMY WITHOUT GENERAL EXPLORATION.

To the Editor of THE LANCET.

SIR,—It is, I suppose, a good thing for us all to have our cherished beliefs seriously challenged by competent authority from time to time. A new consideration of old experience may confirm us in our opinions or persuade us reluctantly to change them. One of the opinions I hold most confidently asserts that in declared cases of acute obstruction of the large intestine (other cases are not now under discussion), a general exploration of the abdomen is both needless and disastrous. Such exploration is needless because in the very large majority of cases it is not difficult to discover with sufficient accuracy for the purpose of treatment where the obstruction lies. The history of the case is very helpful. When a growth is on the right side diarrhœa, in the earlier stages, is the rule, and complete obstruction infrequently occurs; when the growth is on the left side, obstinate and increasing constipation is the rule, and obstruction frequently occurs. Probability is the very guide of life. In cases of acute and complete obstruction of the colon the probability is that the growth is in the left half of the colon. A careful examination of the abdomen is very helpful. One may profitably spend 15 or 20 minutes with the hand gently passing over the surface of the abdomen; distended intestine may be felt to harden and relax and the site of the growth in that way be disclosed. And a stethoscope is not without its use. To explore the abdomen in the very great majority of cases is therefore quite needless. In a small number of cases it is true the obstruction may be due to causes other than growth: to volvulus of the right colon, or of the sigmoid flexure. Of the latter I have recently had two cases; in both the abdomen was opened by an incision displacing the left rectus outwards. The anamnesis and the physical examination will rarely fail to clear up any doubt in the diagnosis of such conditions. A general exploration, moreover, is apt to prove disastrous. The patients are often very ill and suffer always from toxæmia. An obstruction in the colon does not cause serious symptoms in its earlier stages, and in consequence delay in resorting to surgical treatment is rarely avoided. When the colon has been completely blocked for many days a general exploration is attended by difficulties which tax the skill of the surgeon and the strength of the patient to the uttermost. The bowel is enormous, the growth often small, the patient perhaps obese. A deep degree of anæsthesia is inadvisable, and a satisfactory examination without it may be impracticable. If a growth is found in the splenic flexure, let us say, what happens? To mobilise the growth and perform Paul's operation, which at times is extremely useful, is probably out of the question in some subacute cases, and is certainly not to be considered if the obstruction is acute. The practice would probably be to stitch up the exploratory incision and to perform cæcostomy. Time would have been wasted and no one would be the better. What should have been done first is done last. I consider that such a procedure would certainly express itself in a heavily increased mortality. Is it not pandering to untimely curiosity?

Prof. Pannett in THE LANCET of Dec. 2nd tells us that to make the procedure of cæcostomy without general exploration or routine will "land us often in rather an unfortunate predicament."

> "Old experience doth attain
> To something like prophetic strain."

The prophecy in this statement has not yet been fulfilled in my own case, nor in that of others with which I am very familiar. The procedure on the contrary has relieved my anxieties on many occasions, and, in my judgment, has saved the lives of large numbers of patients who would have died if more than this had been done to them. Prof. Pannett also suggests that there may be difficulties at the secondary operation if "blind cæcostomy" has been performed at the first; the incision may be made on the left side when the growth is in the hepatic flexure and "unnecessary mutilation" take place, if colectomy is performed through the wound then made. If there is such a fear why not stitch up the first wound and make a second exactly where it is wished to have it? If it presents "few difficulties" when the case is acute it will present none when the time for operation is chosen in a tranquil period by the surgeon. It is surely better to do this occasionally, in a deliberate operation quietly performed upon an unobstructed patient, than to have to do it always or often in an obstructed patient who is gravely ill. Perhaps I have had a little luck in having found it necessary to change from one incision to another once only in the cases I am now reviewing, and the word "mutilation," whether necessary or unnecessary, is one which makes me shudder, and revolts my sense of the artistry without which the craft of surgery is nothing. My most profound and confident belief in connexion with this phase of intestinal disease is that our immediate and paramount duty is to relieve the obstruction, and beyond that to do nothing. Anxiety to know where the growth is, whether it can be removed, whether there are secondary growths in the liver or elsewhere, or indeed to know anything more of the intra-abdominal conditions than that there is obstruction to be relieved, is not permissible. When the obstruction has passed away, and the patient is duly prepared for a second operation, then all the time that is needed may be expended in this kind of research. The challenge to this opinion leaves me more than ever sincerely convinced of its accuracy.

I am, Sir, yours faithfully,

Leeds, Dec. 3rd, 1922. BERKELEY MOYNIHAN.

To the Editor of THE LANCET.

SIR,—Prof. C. A. Pannett in his letter on this subject in your issue of Dec. 2nd gives a very able criticism of my paper published in the previous issue, and as the subject is one that naturally lends itself to criticism, indeed invites it, I trust you will give me space to briefly reply to his remarks.

Prof. Pannett's chief objection to the performance of cæcostomy in cases of acute obstruction due to growth in the colon without a preliminary exploration is that it leaves the surgeon in the dark as to the exact position of the growth, and that our means of diagnosing the situation of the lesion by means of X rays, &c., are often unsatisfactory. With this, of course, I agree, but on the other hand he will agree with me that when the patient is suffering from acute obstruc-

tion direct interference with the growth is practically always contra-indicated. If this is so, surely it is unwise to perform the exploratory laparotomy in order to ascertain the position of the obstruction at the worst possible time—namely, when the patient is suffering from an acute obstruction?

My argument is that it is better to be content with doing a cæcostomy only when there is acute obstruction, and that the exploratory laparotomy should be done after the obstruction has been relieved, and at a time when the operation for dealing with the growth or obstruction can be proceeded with straight away. If there is doubt as to the position of the lesion a small incision can be made in the centre line of the abdomen and the abdomen explored just as it would be if the exploratory operation was done first, only that it will now be done under very much better circumstances. If necessary a separate incision can be made at the same operation in order to deal with the lesion.

I am, Sir, yours faithfully,

J. P. LOCKHART-MUMMERY.

Hyde Park-place, W., Dec. 2nd, 1922.

PANCREATIC EXTRACT FOR GLYCOSURIA.

To the Editor of THE LANCET.

SIR,—I have followed Dr. R. L. Mackenzie Wallis's work on the pancreas with much interest and appreciation, and I am, therefore, glad he has published his paper on the Internal Secretion of the Pancreas and its Application to the Treatment of Diabetes Mellitus.[1] But I do feel that in his description of the case under the care of Dr. Rait and myself (No. 3 in the paper) he has allowed his enthusiasm to get the better of his critical judgment.

Dr. Wallis says: "Previous to this time (when pancreatic extract was administered) she had been treated by alimentary rest and other dietetic measures but without complete success as far as the glycosuria was concerned." The actual course of events was as follows: she had 6 per cent. of sugar, which cleared up at once after a fast and she remained free from sugar on Graham's scheme for seven months before any pancreatic extract was given. The statement that "on the pancreatic extract the acetone bodies rapidly disappeared, as also the glycosuria," therefore requires revision in both its clauses, for we always found acetone bodies in the urine during the time the extract was being administered. It is true that her daily allowance of bread during the time of pancreatic treatment was 4½ to 5 oz., but so it was before this treatment began. The sentence "In view of the improvement in her general health and the fact that she had been sugar-free for some time, the pancreatic treatment was stopped" perhaps conveys the impression that this improvement dated from the time pancreatic extract was given, whereas it started from the beginning of treatment by alimentary rest, and did not appear to be accelerated by the pancreatic extract. The concluding sentence "up to the present time there has been no return of glycosuria" unfortunately requires a postcript. Sugar reappeared on Oct. 20th, 22nd, and 30th, and she had to be put through the Graham scheme again.

Dr. Wallis gives the blood-sugar before treatment, but omits to say that after nearly three months of treatment there was more hyperglycæmia than before. It is true that no glycosuria followed the second sugar tolerance test, when 50 g. of dextrose were given, but as the blood-sugar continued to rise at the end of an hour on this occasion, instead of falling as it did on the first test, it seems to me that the increased tolerance was due to the continuing rise of threshold, which is the usual result in diabetes treated by alimentary rest. At any rate, it does not illustrate the effect of pancreatic extract, which, as he says, "when given by the mouth is capable of reducing the blood-sugar in certain cases of diabetes mellitus. By reducing the blood-sugar it is possible to increase the patient's tolerance to carbohydrates." For in this case the increased tolerance to 50 g. of dextrose was accompanied by a further rise of blood-sugar.

Dr. Rait, under whose care the patient is, and who kindly asked me to see her with him on several occasions, allows me to add that he corroborates all the above clinical data. It appears to me unfortunate that when an important method of treatment is supported by details of only three cases, one of them should be so incompletely reported as to give, no doubt unintentionally, a misleading impression of the course of events. I have used this pancreatic extract in a good many cases, and should not select the case quoted as one to demonstrate its value. I feel sure that Dr. Wallis can produce better evidence than this.—I am, Sir, yours faithfully,

W. LANGDON BROWN.

Cavendish-square, W., Dec. 4th, 1922.

[1] THE LANCET, Dec. 2nd, p. 1158.

DISPLACEMENT OF THE TRACHEA IN PULMONARY FIBROSIS.

To the Editor of THE LANCET.

SIR,—In your issue of Nov. 25th Dr. G. T. Hebert states that he can find no reference in leading text-books to displacement of the trachea in pulmonary tuberculosis. May I bring to his notice that it was first described by E. Ruedinger in 1910. Mention is also to be found in Pottenger's "Clinical Tuberculosis" and a more detailed account is given in Fishberg's "Pulmonary Tuberculosis," where further reference is made to the literature of the subject.

I am, Sir, yours faithfully,

A. G. M. GRANT, M.D. Edin., D.P.H.,
Medical Superintendent, Manchester Sanatorium.

Nov. 28th, 1922. Abergele.

INSANE EX-SERVICE MEN AND PENSIONS.

To the Editor of THE LANCET.

SIR,—The Government did a weak thing at the beginning of the month which may have disastrous results. They were accused of refusing pensions to men who had served in the army during the war and had been discharged insane, their insanity declared by a medical board to have existed before entry. It was held by Labour Members that this was a piece of nonsense of the doctors, and that no man could have been enlisted insane and therefore all men invalided insane should get pensions. The Government is, it is said in the papers, to review the decisions of the medical boards. One hopes that the decisions were reached for such good reasons that on revision no material changes will be made. Everyone with a large experience of recruiting knows how difficult it is in the time available, even in peace, to make an exhaustive examination, to reach an unchallengeable opinion upon a candidate. What with his denying he ever had fits when he had, what with his friend who brought him concealing the defects he has by lauding his undoubted merits, and so on, not perhaps until the figure begins to work, until he is put on duty, can all the defects of the mechanism be properly appreciated, so a recruit can be discharged inside three months very easily. The regulations permit that. In war time, with thousands of recruits, the condition was accentuated, and more who were unfit slipped by. Just the same difficulty has been found in the United States, but there the Government has not tried to put the responsibility of an unpopular decision on the medical profession, but has itself adopted a definite line and ordered that all men discharged with disability (not due to their own wilful misconduct) for purpose of compensation shall be held to have been of sound condition when accepted for service after April 6th, 1917. This regulation is probably unfair to the State, but at least the State there does take the responsibility itself, and is not trying to make members of the medical profession recall opinions at which they arrived after patient consideration.—I am, Sir, yours faithfully,

Dec. 4th, 1922. EX.-R.A.M.C.

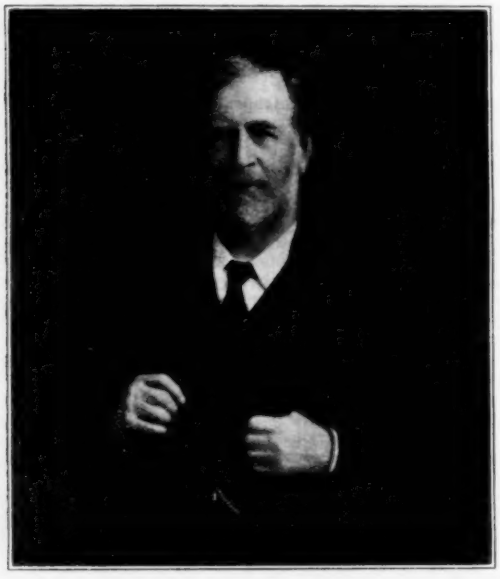
Obituary.

SIR NORMAN MOORE, M.D., LL.D. CAMB., F.R.C.P. LOND., F.R.C.P. IREL.,

CONSULTING PHYSICIAN AND EMERITUS LECTURER ON THE PRINCIPLES AND PRACTICE OF MEDICINE AT ST. BARTHOLOMEW'S HOSPITAL; LATE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

Sir Norman Moore, whose death was not unexpected although his final illness was brief, died on Thursday, Nov. 30th, at Hancox, Battle, Sussex, to the great regret of a large circle of friends and colleagues, in which we join sincerely.

Norman Moore was born in 1847 at Higher Broughton, Lancashire, and was educated at Owens College, Manchester, and at Cambridge, being a scholar of St. Catherine's College. He graduated in 1869 in the natural science tripos and three years later, the curriculum being, of course, shorter, proceeded to the degree of M.B., taking the doctorate in 1876. He had in the meantime entered as a medical student at St. Bartholomew's Hospital, becoming M.R.C.P. in 1873, when shortly afterwards he was



SIR NORMAN MOORE.

appointed warden of the medical school. This post he filled for no less than 19 years, during the whole of which time he resided within the walls of the hospital which he came to love, and of which he was the learned and inspiring historian. In 1883 he was appointed assistant physician to the hospital, becoming full physician in 1902, his hospital career forming, like that of the late Sir Lauder Brunton, an example of the extraordinarily slow promotion which prevailed at the time at St. Bartholomew's. During this long service of the hospital he lectured on comparative anatomy for ten years, on pathology for six years, and from 1893 until the end of his active appointment on the principles and practice of medicine. It thus came about that Moore's knowledge of medicine was so intimate that he was always able to cap the recital of a rare case by two which he had himself seen. In 1911, having been nine years full physician, he was elected consulting physician to the hospital, and emeritus lecturer to the school.

Contemporary with this continuous work at St. Bartholomew's Hospital was his equally devoted adherence to the Royal College of Physicians of London, of which he later became President. A Fellow in 1887, Harveian Orator in 1901, and seven years later Senior Censor, he was elected President in 1918, on the retirement of Sir Frederick Taylor. He was also for 17 years Harveian librarian in recognition of his great knowledge of medical literature and his general renown as a bibliophile. He was thoroughly conversant with all the history, routine, and details of management of the great corporation, and it was felt by many that, although not possessing the higher scientific repute of many of his predecessors, he had thoroughly earned the position of head of the College. Moreover, he had represented the College for an extended period on the General Medical Council, contributing largely to debates on medical education. Here his attitude was generally that of a conservative, as might have been expected from the ardent student that Moore was of old customs and manners. At his University he was Rede Lecturer in 1914, when he chose for his disquisition the subject of St. Bartholomew's Hospital in Peace and War, and at different times he was an examiner in medicine at Cambridge. His College had made him an Honorary Fellow for many years.

It is as an author that Sir Norman Moore will be chiefly remembered, and his contributions to the historical side of medicine are those that count. Early in his career, and while engaged in lecturing on these subjects at his medical school, he wrote on pathological anatomy, and in 1889 delivered the Bradshaw Lecture of the Royal College of Physicians, taking as his subject the distribution and duration of visceral new growths. But his contributions to the Dictionary of National Biography were the first of his writings to attract public attention. To that dictionary he contributed no less than 459 biographies, a task which entailed upon him considerable research and the expression of a wide sympathy with the work of totally differing persons. He delivered also the FitzPatrick Lectures of his College, taking as his subject the history of the study of medicine in the British Isles, and, as a matter of fact, he was largely instrumental in the foundation of these useful lectures. He returned to this ground in his Linacre Lecture, when he selected as his subject the Physician in English History, but his *magnum opus* was the magnificent history of St. Bartholomew's Hospital, the result of 30 years' loving and intensive study of the great foundation. This work appeared in 1918, the year when he was elected President of the College, and the two stately volumes were permeated with scholarship, erudition, and picturesque knowledge. To write an accurate chronicle of a corporation which has existed for close upon 800 years would anyhow be an exploit, but so to write it as to present a vivid picture throughout the ages was a literary triumph, and this Moore accomplished. He made himself familiar with every record and charter dealing with St. Bartholomew's—and fortunately many of them were in existence; he levied toll on contemporary histories and memoirs in the mediæval sections, and, for times nearer our own, relied on the ledgers and journals of the house. Moore made his book a free gift to the body for which he had laboured so long and faithfully.

The Irish side of Norman Moore was shown in a practical way, not only by a history of medicine in Ireland, but by a translation of an Irish grammar and of the Crown of Loegaire Lure from the Irish text; in recognition of these writings he was elected Fellow of the Royal College of Physicians of Ireland in 1912.

Sir Norman Moore, who was created a baronet in 1919, was twice married, first in 1880 to Amy, daughter of Mr. W. Leigh Smith, and secondly, in 1903, to Millicent, daughter of Major-General John Ludlow. He had two sons by his first marriage, one of whom was killed in the war, the baronetcy devolving on the survivor.

CLEMENT JOHN BAKER, M.R.C.S. ENG.

Dr. C. J. Baker, who died at sea on his way to England, was in his fiftieth year, and had been medical officer in the Uganda Protectorate since 1903. He will be remembered as the man who, shortly after his arrival at Entebbe, when the rôle of the trypanosome in the causation of sleeping sickness was in doubt, detected trypanosomes in three cases of fever in natives. The hosts felt well, and it was a question whether the parasites were of the same kind as those found just previously in the cerebro-spinal fluid of sleeping sickness patients. About three months later trypanosomes were found by lumbar puncture in two of the cases, and after the lapse of two years one died with typical sleeping sickness confirmed at autopsy, so that the identity of the two conditions was established.

Dr. Baker latterly filled the position of principal sanitation officer in Uganda. He travelled much throughout the territory and, in addition to carrying out investigations on the distribution of sleeping sickness, was brought in contact with outbreaks of cerebro-spinal fever and plague. He devoted himself specially to combating the latter, organised campaigns against rats, and devised measures for preventing access of rodents to the native grain stores. He had the faculty of getting the natives to work for him and enlisted their sympathy and interest in his efforts to improve their health. He was helpful in getting public health legislation placed upon a sound basis, and his intimate knowledge of Uganda and its inhabitants was of great service to the Government.

Dr. Baker was, in short, a highly valuable public servant.

ROBERT MILNE, M.D., C.M. ABERD.

WE have already recorded the death of Dr. Robert Milne who identified himself, during a long life, with the medical care of destitute children in Dr. Barnardo's Homes and Hospitals. Qualifying M.B., C.M. in 1874 at the University of Aberdeen, Milne took the M.D. degree six years later when he became medical officer at Her Majesty's Hospital in Stepney Causeway. The surgical work there grew rapidly, and early in the "eighties" Sir Watson Cheyne was invited to become consulting surgeon to the hospital. Of this association Sir Watson Cheyne writes:—

"I was associated with Dr. Milne for many years and was filled with the greatest admiration for his character and affection for himself. He was an ideal man for the post. He loved the children and would do anything for their comfort and contentment in his patient, kindly, and fatherly way. His interest was by no means limited to surgical and medical troubles, but was as great in the future success of the children and their development of character."

Dr. Milne was medical adviser to the "Regions Beyond" Missionary Union and took his share in popular instruction, lecturing for a while on physiology at the People's Palace. Interest in the treatment of the common infectious diseases of childhood was forced upon him by the conditions of his work, and he was led to try bold experiments in home treatment and bed isolation of measles and scarlet fever. In spite of a resident population of several thousands of young children, the Barnardo Homes had neither isolation hospital nor isolation beds. At the earliest indication of infectious disease Milne instituted the plan of swabbing tonsils and pharynx every two hours during the first 24 hours with 10 per cent. carbolic oil, at the same time rubbing the body all over from crown to sole with pure eucalyptus oil. By this means he claimed absolute freedom from spread of the disease, from complications, and from cross-infections. The Milne method has been tried in many countries and favourable reports received. Curiously enough, it has obtained little endorsement in fever hospital practice at home. Of the effect of life in the Homes on the general health of the children, Dr. Milne once wrote: "Many of our children come to us suffering as the result of unhealthy dwellings, poor food, irregular meals, insufficient clothes, lack of bedroom ventilation, parental neglect, and a whole host of such-like related ills. One hundred and twenty deaths per 1000 per annum among children under the age of 1 year is not unusual in London: in slum areas it may run up to 180 per 1000. Among our 7000 young people (including 619 babies) we had in 1917 only 58 deaths, and of these 29, or exactly one-half, died from diseases contracted prior to admission." Dr. Milne made the remarkable observation, often confirmed since, that it is unsafe, whatever the cubic space, to accommodate more than ten babies in a single ward.

Both of Dr. Milne's sons have followed him into the medical profession. Dr. James A. Milne was closely associated with him in the work of the Homes. Mr. Robert Milne is surgeon to the London Hospital.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—E. Downing, St. Mary's Hosp.; A. Gullertein, London Hosp.; H. D. L. Jones (Sect. II.), St. Mary's Hosp.; W. A. Jones, Glasgow; M. Newfield, Charing Cross Hosp.; G. Shwartzman, Odessa and Brussels; and A. W. L. Smith, Manchester.

Medicine.—E. Downing, St. Mary's Hosp.; J. Mitchell, Edinburgh; M. Newfield, Charing Cross Hosp.; R. F. A. Philpott, St. George's Hosp.; and A. W. L. Smith, Manchester.

Forensic Medicine.—E. M. Chidson, Royal Free Hosp.; E. Downing, St. Mary's Hosp.; D. J. Dubash, Bombay and Royal Free Hosp.; M. Newfield, Charing Cross Hosp.; R. F. A. Philpott, St. George's Hosp.; P. D. Richards, St. Bart.'s Hosp.; and A. W. L. Smith, Manchester.

Midwifery.—E. M. Chidson, Royal Free Hosp.; E. Downing, St. Mary's Hosp.; A. Gullertein, London Hosp.; R. F. A. Philpott, St. George's Hosp.; P. D. Richards, St. Bart.'s Hosp.; and A. W. L. Smith, Manchester.

The Diploma of the Society was granted to the following candidates entitling them to practise medicine, surgery, and midwifery: E. Downing, H. D. L. Jones, W. A. Jones, J. Mitchell, M. Newfield, and A. W. L. Smith.

DUFFERIN FUND SCHOLARSHIPS.—The Council of the Countess of Dufferin's Fund offers to Indian medical women scholarships for further study in the United Kingdom to the value of £200 per annum each. Applicants must satisfy the Council that they possess sufficient means to meet the passage money and additional expenses, which will amount at least to £150 per annum. All applicants must have had some general or hospital experience since qualifying.

UNIVERSITY OF MANCHESTER.—At the last meeting of the Court it was resolved that the Vice-Chancellor, Sir Henry A. Miers, be reappointed for another three years on completion of his present term of office. The Vice-Chancellor stated that the number of students in the University was 2545; last May there were 2859; the reduction was due to the disappearance of the service students, of whom there were 550 in May and only 180 now. Sir William Thorburn and Mr. H. B. Dixon were appointed members of the Court, and Mr. A. H. Burgess Professor of Clinical Surgery, was appointed a Governor.

ROYAL MEDICAL BENEVOLENT FUND GUILD.—A meeting of this Guild was held at 11, Chandos-street, Cavendish-square, W., on Nov. 26th. Lady (Rose) Bradford, the President, introduced Mrs. Kendal, who presided over a well-attended meeting. Mrs. Scharlieb, M.D., spoke of the work of the Guild, and Lady Fripp, chairman of the General Purposes Committee, outlined a proposal which had been formulated and was receiving good support, for a dinner to be held at the Hyde Park Hotel on Jan. 30th. Tickets (price 17*s.* 6*d.*, including wine) can be obtained from the hon. secs., Miss Swinford Edwards, 68, Grosvenor-street, London, W., and Miss Fletcher, 98, Harley-street, London, W. Many members present consented to act as stewards, their duties being to undertake to collect £10 before Jan. 30th, or to act as hostess at the dinner to eight or ten guests. The dinner is being held chiefly for propaganda purposes, since it is felt that the work of the Guild is not sufficiently well known. Those who cannot undertake to act as stewards are asked to help a steward or to invite one guest to the dinner, of which further particulars will be announced later. No collection will be made at this dinner, the object of which is to focus the attention of the profession and of those who have reason to be grateful to its members on the activities of the Guild.

HARVEIAN SOCIETY.—A meeting will be held at the Town Hall, Paddington Green, on Dec. 14th, at 8.30 P.M., when Major E. E. Austen will read a paper on Diptera which Disseminates Disease, with lantern demonstration.

SOCIETY FOR CONSTRUCTIVE BIRTH CONTROL AND RACIAL PROGRESS.—A meeting will be held on Dec. 14th, at 8 P.M., at the Essex Hall, Essex-street, Strand, W.C., when Dr. Jane Lorimer Hawthorne will lecture on Birth Control as it Affects the Working Mother. A discussion will follow.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society will be held at the Miller General Hospital, Greenwich, to-day, Friday, at 8.45 P.M., with Dr. W. H. Payne, the President, in the chair, when the Purvis Oration will be delivered by Sir Cuthbert Wallace on the Peritoneum from a Surgical Point of View.

ROYAL SOCIETY OF MEDICINE: SOCIAL EVENING. At the next social evening, to be held on Dec. 13th, a wireless concert will be rendered at 8.20 P.M. in the Robert Barnes Hall, without the necessity for the use of individual ear-pieces. Messrs. Marconi have loaned a Magnavox Loud Speaker, and the arrangements have been made through Mr. Hardie of the Electric Light Insurance and Maintenance Company. At the end of the concert news too late for publication in the evening papers will be delivered.

REGULATION OF MASSAGE.—The Canton of Zug in Switzerland has issued an edict regulating the practice of massage. To obtain the patent to practise it will be necessary to produce either the usual certificates of full training or to undergo an examination, testing the candidate's general knowledge of anatomy and physiology, practical ability in the employment of technique, and choice of procedure appropriate to various diseases. Unauthorised application of curative methods or unjustified claim is punishable and may lead to withdrawal of the patent.

DENTAL BOARD OF THE UNITED KINGDOM: *Remission of Fees.*—The Registration Committee of the Board, at a recent meeting last week, considered a number of applications to be excused from paying the fee for the retention of names on the Register. In cases where it could be shown that, although the qualifying examination had been passed before July 28th, 1921, the practitioner was prevented from registering by delay on the part of the licensing body, it was decided to remit the annual fee.

Antedating of Registration.—Persons actually registered as dental students, who give evidence that they have been pupils or apprentices, for 12 months or more, to registered practitioners whose names now appear on the Dentists Register, may apply to the General Medical Council to have their registration antedated for a period not exceeding 12 months. The duration of the normal curriculum is four years, and in certain cases the concession thus granted may have the effect of shortening the period of study required. This point is subject to the requirements of the licensing body whose qualification is sought.

LONDON (R.F.H.) SCHOOL OF MEDICINE FOR WOMEN. The annual dinner was held at the Holborn Restaurant, London, W.C., on Dec. 1st, Mrs. Ethel Vaughan-Sawyer, M.D., presiding over a gathering of 283 members of the staff, past and present students, and guests. The chairman, proposing the toast of the hospital and school, spoke of the retirement of Dr. Walter Carr, the senior physician, and that of Miss Cox-Davies, the matron, of the Royal Free Hospital, and dwelt on the devotion each of them had shown during long years of service. Commenting on the excellent results attained this year by students both in qualifying and higher examinations, she spoke of the desirability of hobbies and distractions outside one's life-work. In this connexion she mentioned that this was the only school of the University of London to have a women's boat on the river and voiced the need for a suitable recreation ground and for the provision of more tennis courts. The toast of the visitors, who included representatives of the medical schools of Charing Cross, St. Mary's, and the National Hospital for Epilepsy and Nervous Diseases, was proposed in a few words of friendly welcome by Mr. J. Gay French; Lord Riddell responded in such happy terms that his hints on the art of making speeches were rendered the more effective. Dr. Louisa Martindale, in proposing the health of the chairman, emphasised her popularity with staff, students, and nurses. Between the speeches Madame Teresa de Riego's songs were greatly appreciated. The formal proceedings filled only part of the evening, ample time being allowed subsequently for renewal of old friendships. A special vote of thanks was accorded, on the motion of Miss L. Aldrich-Blake, to the joint hon. secretaries, Dr. Mary Lucas-Keene and Dr. Haldin Davis, to whose careful arrangements the success of the function was largely due.

THE Prince of Wales has been elected as an Honorary Fellow of the Royal Society of Medicine.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—At a meeting to be held in the Medical Library of the University on Wednesday, Dec. 13th, at 8 P.M., Prof. S. Lyle Cummins will read a paper on Acquired Resistance to Tuberculosis: A Factor in Clinical Type and Prognosis.

THE Westminster and Holborn divisions of the British Medical Association will meet on Thursday next, Dec. 14th, at the Criterion Restaurant, Piccadilly, at 8.30 P.M., when Prof. B. J. Collingwood, St. Mary's Hospital, will lecture on the Newer Physiology in General Practice. The meeting will be preceded at 7.30 P.M. by a dinner, those desiring tickets for which are requested to communicate with Dr. F. D. Bennett, 18, Savile Row, W. 1. All members of the medical profession will be welcomed.

MANCHESTER SURGICAL SOCIETY.—A meeting will be held on Dec. 12th, at 8 P.M., in the library and reading room of the Manchester Medical Society, Medical School, Coupland-street, Manchester, Mr. A. H. Burgess, the President, being in the chair. A paper on Massive Excision of Diseased Bone followed by Immediate or Early Bone Grafting will be read by Mr. M. Mamourian, and the discussion thereon will be opened by Mr. Harry Platt. At 9 P.M. a paper on After-results of Gastrectomy for Ulcer will be read by Mr. Garnett Wright, the subsequent discussion being opened by Mr. H. H. Rayner.

CHELSEA HOSPITAL FOR WOMEN.—Plans for a new nurses' home are being prepared; for this completion of the building scheme a sum of £17,700 is in hand and about £12,000 more are required. The debt on the general fund has, with the support of the combined appeal and a share of the Government grant, been reduced during the year from £4000 to £2500. Contributions to both of these objects, as well as to the maintenance of the convalescent home at St. Leonards-on-Sea, will be most gratefully received by the hon. treasurer, or by the secretary, Mr. Herbert H. Jennings, at the hospital, Arthur-street, S.W. 3.

THE LATE MR. RODERICK MACLEAN.—Mr. Maclean, who qualified L.R.C.P., L.R.C.S. Edin., L.R.F.P.S. Glasg., in 1891, died on Nov. 28th. He was born in Scotland 59 years ago and after qualifying went to Lincoln at the age of 31, where he built up a large private practice. For some time he was medical officer to the Lincoln United Friendly Societies' Dispensary, and for the last four years was medical practitioner in the south district of the city to the Lincoln branch of the Manchester Unity Order of Oddfellows. By his kindness and skill he was very popular among the working classes. He served during the war and was discharged with the rank of captain.

UNDER the auspices of the Ladies' Medical Golfing Society a bogey competition, open to all lady golfers, is to be held between Jan. 1st and Sept. 30th, 1923, for the benefit of the Royal Medical Benevolent Fund Guild. Cards may be taken out on any course, and a stamp, price 6*d.*, specially issued by the Guild, must be affixed to the back of the card before the player starts out. The play is to be under handicap and to follow the rules of the club on which the round is played, the card being signed by a member of a recognised golf club. The player who returns the best aggregate of five cards will win a silver cup. Further particulars and sheets of 20 stamps may be obtained from Lady Rigby, 24, Queen Anne-street, London, W. 1.

DAVID LEWIS EPILEPTIC COLONY.—At the annual meeting of the David Lewis Epileptic Colony held on Nov. 29th, the director, Dr. Allan McDougall, reported that luminal sodium had been given an extensive trial in the treatment of the colonists. It was worthy of further trial. It had been helpful in some cases and disappointing in others. It had been found that children moved away from their homes to special residential schools soon after the onset of epilepsy might have no more fits, so that in the congenial atmosphere of the school the child might have got well quickly even without medicine. The daily average number of colonists in residence during the past year was 365, which established a record.

INFANT MORTALITY IN THE N.W.F. PROVINCE, INDIA.—The rate of infantile mortality in the province rose last year to 195 per 1000 births, compared with a figure of 162 for the preceding 12 months. The scheme for training native midwives at zenana hospitals at the expense of provincial municipalities has come to nothing as no suitable women offered themselves for training. In the latest report on the sanitary administration of the province reference is made to the proposed establishment of a child welfare centre in Peshawar city, which should aid in arousing public interest.

COMMITTEE ON DIETARIES IN MENTAL HOSPITALS.—The Board of Control have added the following members to the Committee which is inquiring into the dietaries in mental hospitals: Dr. P. T. Hughes, medical superintendent of the Worcester County Mental Hospital; and Mr. W. J. Gibbs, clerk and steward of the Tooting Bec Mental Hospital.

ROYAL INSTITUTION.—The juvenile lectures at the Royal Institution this Christmas will be delivered by Prof. H. H. Turner, whose subject is Six Steps Up the Ladder to the Stars. The first lecture will be given on Thursday, Dec. 28th. Among the lectures to be delivered before Easter are two by Prof. F. G. Donnan on Semi-Permeable Membranes and Colloid Chemistry, two by Sir Arthur Shipley on Life and its Rhythms, and two by Prof. I. M. Heilbron on the Photosynthesis of Plant Products.

BRITISH EMPIRE EXHIBITION (1924).—We have received the news service list of the exhibition, and note that the medical side is receiving attention. The authorities of the exhibition intend to concentrate on tropical diseases and hygiene; a representative committee has been formed which contains well-known names in the medical world. Two technical secretaries have been appointed: Dr. S. H. Daukes, O.B.E., who is arranging exhibits of some 27 diseases, and Lieut.-Colonel W. W. Clemesha, C.I.E., M.D., late sanitary commissioner with the Government of India, who accepts responsibility for the department of hygiene. Arrangements for these exhibits are already advanced.

LONDON FEVER HOSPITAL.—On Nov. 22nd Lord Muir-Mackenzie opened the new extension to the Nurses' Home, in the grounds of the London Fever Hospital, Liverpool-road, N. 1. The building is four stories high, and has been built at the north end of the existing Nurses' Home. The ground floor contains combined class and sitting-rooms capable of seating 100 nursing students, and these rooms can be separated by a folding partition. The matron's quarters are also situated on this floor. The upper floors each contain seven bedrooms, each floor having its own sanitary wing, including tiled bathrooms and lavatories, with shampoo fittings and electric hair dryers, and each room has its own built-in wardrobe. The floors of corridors and of the staircase are of stone or ferro-concrete; those in the sanitary wings are of jointless material, and those of the rooms are bees-waxed and polished. All horizontal and vertical angles are of a large quadrant section. The corridors and class-rooms are heated by means of radiators; bedrooms by means of gas fires.

ROYAL UNITED HOSPITAL, BATH: POST-GRADUATE DEMONSTRATIONS.—A series of six demonstrations have been held recently at 2.30 P.M on Saturdays, tea being provided at the conclusion of each. They included demonstrations of clinical cases, lantern slides, pathological tests and short operations bearing on the special subjects chosen for each afternoon, so that all aspects of the subject might be illustrated. The first demonstration was of common diseases of the blood, and this was followed by demonstrations dealing with chronic dyspepsia, renal incompetence and infection, cardiac affections, common nervous diseases, and finally orthopædic principles. The attendance was well maintained and varied between 26 and 34 practitioners not on the staff of the hospital. To show their appreciation of the teaching, which was given without fee, the class entertained those who had given the demonstrations to a lunch on the last Saturday and afterwards presented them with a cheque for £50 towards the museum fund of the hospital. The additions to the museum, which this will make possible, are expected to enhance the value of future courses, which are to be held annually.

NOTTINGHAM GENERAL HOSPITAL.—At a meeting of the Hospital Saturday Committee on Nov. 23rd Mr. F. Acton, chairman of the hospital, stated that the hospital would probably soon have a new out-patient department, owing to testamentary depositions made in a will, details of which cannot at present be published, except that the value of the legacy may be in the neighbourhood of £40,000. The suggestion is that an X ray and pathological department, together with a department for ear, throat and nose diseases, should be included in a new building, which it is hoped will be erected on the reservoir site opposite the hospital, should that site be presented to the hospital by the city corporation. The report of the executive stated that the Hospital Saturday Fund was closed on Dec. 31st, instead of in April, in order that the financial year should close to correspond with the financial year of the hospital. As a result there were only eight months of contributions, £7707 7*s.* 11*d.* being paid in. Since this the contributions, notwithstanding considerable trade depression, had come in splendidly and up to the present £23,868 19*s.* 4*d.* had been received. Out of this the committee had made three grants to the General Hospital, one of £10,000 and two of £5000, making a total of £20,000.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Medical Committee of the House of Commons.

THE medical Members of the House of Commons marked their combination in the new Parliament by a dinner in the House on Monday evening last. The Members surviving from the last Parliament—Lord DAWSON, Sir W. WHITLA, Lieut.-Colonel F. E. FREMANTLE, Major J. E. MOLSON, and Captain W. E. ELLIOT—were the hosts, although Lord DAWSON at the last moment was unable to be present. Six other Members completed the party—Dr. W. A. CHAPPLE, who sat in the House from 1910 to 1918, Sir GEORGE BERRY, Sir SYDNEY RUSSELL-WELLS, Sir JOHN COLLIE, Dr. T. WATTS, and Dr. A. SALTER. The three Members absent were Major L. G. S. MOLLOY, Mr. HARVEY DIXON, and Dr. J. H. WILLIAMS. Colonel FREMANTLE presided, and gave an account of the activities of the Medical Committee in the late Parliament, referring with regret to their loss of Sir WM. WATSON CHEYNE, Lieut.-Colonel NATHAN RAW, Major A. C. FARQUHARSON, Dr. C. ADDISON, Sir ROBERT WOODS, and Dr. B. F. P. MACDONALD. He sketched the work open to the new Committee, the lines on which they might coöperate, and the methods of making their procedure effective and comprehensive. He was supported by his fellow-hosts, when Captain ELLIOT made a striking reference to the overwhelming responsibility of a Member to his constituents for a share in the government of the whole State. All the guests replied in turn, the individual contributions foreshadowing divergence of view from Labour, Liberal, National Liberal, Ulster and Conservative benches. The first meeting of the Committee will be held next Monday. The medical profession should have an active and sincere representation in the new Parliament.

HOUSE OF COMMONS.

TUESDAY, NOV. 28TH.

French Experts and Tuberculosis.

Lieut.-Colonel NALL asked the Minister of Labour, as representing the Ministry of Health, whether information on tuberculosis not supported by the Ministry's medical experts was recently given to a London newspaper by the publicity branch of his department.—Major BOYD-CARPENTER (Parliamentary Secretary to the Ministry of Labour) replied: My hon. and gallant friend presumably refers to the report prepared in the Ministry of Health and published in the *Times* of Oct. 10th as to the conclusions of a committee of French experts appointed under the presidency of M. Calmette to consider certain aspects of bovine tuberculosis. It will be seen that the report is a mere summary of the findings of M. Calmette's committee, and no question accordingly arises as to the views of any particular department of the Ministry on the issue.

WEDNESDAY, NOV. 29TH.

Government's Housing Policy.

On the motion for the adjournment,

Mr. LANSBURY complained that, although the borough of Poplar had raised between £50,000 and £60,000 for building houses in the borough, they had never got the money. It was lying in the coffers of the London County Council or some other central authority. The late Mr. W. Crooks had called the attention of the House and of the L.C.C. to some of the worst slums to be found anywhere in the metropolis. They wanted to get these slums away, and they thought by subscribing to the housing fund that they would be able to get some of them away. The Housing Committee of the Poplar Council had held an inquiry and had condemned a number of slums in their area. That was two years ago and though they had made persistent and repeated applications to the Minister of Health on each occasion they had been told that there was no money available. They finally came to an arrangement that one tiny area should be cleared. The country spent millions to beat the Germans, was it not worth spending millions to save the lives of these men, women, and children?

Mr. AMMON said houses should be added to at the rate of 10,000 a year. There were in London at least 184,000 dwellings found insanitary, and 365,000 other habitations that ought to be condemned and destroyed, but which just came within the law. He quoted examples of sexual misconduct due to the conditions, and added that it was absurd to think that they could approach the housing question from an economic point of view; they had to consider it from the point of view that our people had to be housed adequately if we were going to hold our place among the nations of the world. The cost ought to be regarded as a war charge and be met out of the National Exchequer.

Lord E. PERCY pointed out that the Ministry of Health had refused authority to new housing schemes in Poplar, not because they were unwilling that the borough should incur a capital liability of £60,000, but because they were unwilling to pledge the National Exchequer for any deficit which might accrue on these schemes for 50 years to come. That was the thing that was holding up housing in London and in the country. He believed that a comparatively small sum of money could, at present building prices, stimulate slum clearance schemes if it was properly distributed and allocated by the Minister of Health.

Mr. T. THOMSON appealed to the Government to at once tackle the question of providing more houses in order to prevent sickness and ill-health becoming rampant and to ward off those moral dangers which would be laid to their charge as a community if they did not face their responsibilities.

Mr. J. STEWART said that in the city of Glasgow last year they spent nearly £100,000 on the health problem to deal with the bad conditions arising out of housing. A thousand people died from tuberculosis alone, not in the well-to-do portions of the city but in the poorer districts. This year the corporation of Glasgow was engaged in building a new sanatorium at a cost of over £300,000 to contain 200 or 300 beds. It had built a hospital which was now occupied by 440 patients. It had hundreds of cases in the Poor-law hospitals all arising from tuberculosis, and nothing was done.

After further discussion,

Sir THOMAS INSKIP (the Solicitor-General), replying to the debate, said that the Government scheme which had committed the State to an expenditure of something over £9,000,000 a year for the next 60 years had resulted in the provision of a large number of houses, it was true, but a number which, having regard to the needs of the country, was comparatively small. That scheme had not solved the problem. The total number of houses that would be provided under the schemes was just over 215,000, which, with another 3000 dwellings that had been provided for by the conversion of huts and hostels, made something like 220,000 dwellings. From one point of view this was a tremendous result. At present 188,000 houses had actually been completed on Nov. 1st. Of the 176,000 houses to which the local authority and public utility schemes were limited 11,000 had not yet been begun, and work was proceeding on 118,000, so that there were something like 30,000 houses upon which work still remained to be done. The only statement which the Government could make at present was that houses could in their opinion be more advantageously provided by those whose business was to build houses than by the State, and there were already signs of revival in private enterprise in building.

Ex-Service Men as Pauper Lunatics.

Mr. LAWSON raised the question of ex-Service men in pauper lunatic asylums.

Major TRYON (Minister of Pensions), in reply, said not one of the men concerned had been overseas, and as Minister he was bound by the Warrant which decided that these pensions should only run for one year after the termination of the war. He hoped that the Ministry would never be asked to compensate for disablements not due to the war. He was personally going over these cases with every sympathy, and as far as possible within the powers granted by Parliament to accept these cases as attributable. Every day throughout the year, on an average, over 100,000 people came up for treatment at the cost of the Ministry. Those were cases of sickness which they admitted and knew were due to the war. Of all the difficulties that the Ministry has to face, none caused his predecessor or himself more anxiety than the problem of mental instability and neurological patients. They put them in hospitals and had been specially claiming the services of a large number of medical officers to attend to them. They had gone to the utmost risk of breaking the law in order to keep these men out of the asylum. But when they were certified under the law then they must pass into the great asylums, because the Ministry was not allowed to keep them in their hospitals. But even in the asylums they were treated not as pauper patients but as private patients. That was the case with about one thousand men in these asylums. The Government were prepared to go into the question and see if one or two special hospitals could be set up for ex-Service men.

Unemployment and Sickness.

Sir WALTER DE FRECE asked the Minister of Labour, as representing the Minister of Health, whether his medical returns showed any increase in public sickness due to unemployment and reduced wages; and, if so, where these evidences were most manifested.—Major BOYD-CARPENTER (Parliamentary Secretary to the Ministry of Labour) replied: Some indication of the amount of sickness of all kinds amongst the employed population of the country is furnished by the returns of expenditure by approved societies on sickness benefit under the National Health Insurance Acts. From these it appears that there was an increase in the number of weeks for which benefit was paid in 1921 as compared with the previous year of 1·4 per cent. in the case of men and 8·4 per cent. in the case of women. He reminded the House of the serious epidemic of influenza about the end of the year 1921.

The Government and Vaccination.

Mr. FREDERICK ROBERTS asked the Minister of Labour, as representing the Ministry of Health, whether any instruction or advice had been issued by the Ministry of Health in favour of pressure being brought to bear upon persons to submit to vaccination; and, if so, whether, in view of the law on this question, he would state the authority for this action.—Major BOYD-CARPENTER replied: The answer to the first part of the question is in the negative and the second part, therefore, does not arise.

The Small-pox Outbreak.

Mr. GILBERT asked the Minister of Labour, as representing the Ministry of Health, whether he could make any statement as to the present epidemic of small-pox; whether it had been confined to London; how many cases had been discovered; how many deaths had occurred; how many of the cases had been vaccinated or not; and could he state what special action his department had taken in the matter.—Major BOYD-CARPENTER replied: The present outbreak of small-pox is not confined to London. Cases of this disease have occurred during the present year in 56 districts outside London and in 7 metropolitan boroughs; 893 cases have been discovered and 26 deaths have occurred; 278 of the cases had been vaccinated; 608 were either unvaccinated or showed no evidence of vaccination; and in 7 cases there is no information as to vaccination. Special instructions have recently been issued to all sanitary authorities and boards of guardians as to the steps to be taken on the occurrence of small-pox, and medical officers of the Ministry have visited the districts in which cases have occurred in order to advise and assist the medical officers of health.

Working of National Health Insurance Acts.

Mr. GOULD asked the Minister of Labour, as representing the Ministry of Health, whether, having regard to the present working of the National Health Insurance Acts, resulting in numerous complaints, and the desirability of securing more adequate benefit and greater facility of administration, an exhaustive inquiry would be made into the whole subject by a competent body with the object of obtaining such recommendations as would confer the greatest benefit upon those for whom the scheme has been designed.—Major BOYD-CARPENTER replied: The question to which my hon. friend refers will receive the consideration of my right hon. friend.

THURSDAY, NOV. 30TH.

Voluntary Boarders in Hospitals.

Mr. ROBERT RICHARDSON asked the Minister of Labour, as representing the Ministry of Health, if he was aware that the Board of Control had addressed a circular to the medical superintendents of registered hospitals in which it was stated that voluntary boarders in hospitals might leave after giving 24 hours' notice in writing; and, seeing that according to the statute the hospital superintendent had no such right to demand any notice from the voluntary boarder, would he take steps to see that this statement was at once corrected.—Major BOYD-CARPENTER replied: The circular to which the hon. Member refers was addressed to the resident licensees of licensed houses as well as to the medical superintendents of registered hospitals. Section 229 (6) of the Lunacy Act, 1890, provides for 24 hours' notice in the case of licensed houses, and although the Act is silent as to the notice to be given in the case of registered hospitals, it is in the opinion of the Board of Control reasonable to require the same notice. The circular suggests that the terms should be made clear to voluntary boarders on admission. I am sending the hon. Member a copy of the circular.

Suggested Abolition of Medical Boards.

Mr. LAMB asked the Minister of Pensions if he would consider at an early date the desirability of stabilising for life all pensions to ex-Service men and the abolition of medical boards, thus removing from the minds of those men the present unsettled feeling of uncertainty and apprehension which now existed and at the same time, whilst economising in administration, enabling adequate compensation to be given to those who are suffering from incapacity through serving their country during the war.—Major TRYON replied: Regulations for the making of final awards were issued at the beginning of the year in pursuance of Section 4 of the War Pensions Act, 1921. The scheme is in active operation and a large number of final awards have already been made.

Pensions Expenditure for 1923.

Mr. GOULD asked the Minister of Pensions the total amount of the grant for estimated expenditure for the year 1923; and the total amount expended respectively in payment of pensions to disabled men, widows, and children, their dependents, and in the costs of administration at head offices and throughout the various regions, exclusive of medical boards, and the amount spent in respect of medical boards.—Major TRYON replied: The total estimated expenditure of the Ministry of Pensions for the current year is £89,991,000. The total expenditure in respect of men is £43,371,043; for widows and children £20,162,000; for dependents £8,123,000; and for officers and nurses £6,350,857. The estimated expenditure in respect of administration is £4,606,000 exclusive of medical boards, the cost of which is estimated at £604,000 for the year.

New Pension Applications.

Mr. LAWSON asked the Minister of Pensions how many new applications for pensions were received during the 12 months ended Sept. 30th, 1922; how many of these were granted; and whether it was proposed to enforce the seven years' limit allowed to men disabled in the late war to send in their applications.—Major TRYON replied: During the year ending Sept. 30th last 107,000 applications of all classes were received and in 53,000 cases an award of pension, weekly allowance, or gratuity was made. The answer to the last part of the question is in the affirmative. I may remind the hon. Member that this time limit was approved by Parliament and is incorporated in the War Pensions Act, 1921.

Withholding of Treatment Allowances.

Mr. WEBB asked the Prime Minister, whether in view of the large number of cases in which ex-Service men are finding their provisional or conditional pensions or their treatment allowances withheld, owing either to technical informalities which the Ministry of Pensions was unable to overcome or because they were medically certified as capable of remunerative employment, which the Ministry of Labour was unable to provide for them, and seeing that the two Ministries were apparently not acting in coöperation in the matter, the Government would appoint a committee, on which both Ministries could be represented, to consider what provision, apart from the Royal Warrant governing pensions and the operations of the labour exchanges and unemployment insurance, could be promptly made to prevent such men from being driven to seek Poor-law relief, or to enter the workhouse in England and Wales or the poorhouse in Scotland.—Major TRYON replied: I may, perhaps, remind the hon. Member that disablement pensions are awarded, in accordance with the terms of the Royal Warrants, solely on a medical assessment of the degree of disablement sustained by the man in consequence of his war disability. Considerations as to the earning capacity of the individual man or the conditions of the labour market were abandoned with the approval of Parliament as conditions governing the award of pension, in order to secure uniformity in the assessment of the same disability in men of different occupations or different circumstances. I am not aware that there is want of coöperation between my department and the Ministry of Labour. Indeed, representatives of the War Pension Committees are now being nominated to serve on the new local bodies which are being constituted by the Minister of Labour to assist in the solution of the problem referred to by the hon. Member, and, as already announced, it is the intention of the Government to give effect to the recommendation of the recent report of the Select Committee on Employment of Disabled Men, in favour of the formation of a National Council on which my department should be represented along with the Ministry of Labour. I am hopeful that these measures may go far to meet the difficulty to which the hon. Member refers.

FRIDAY, DEC. 1ST.

Disability Cases Due to War Service.

Mr. DAVID GRENFELL asked the Minister of Pensions the number of disability cases originally held to be attributable to war service but which had since been certified as suffering from causes aggravated by such service; and whether he had received numerous complaints against this alteration.—Major TRYON replied: I regret that complete figures are not readily available, but I can inform the hon. Member that the percentage of the total number of cases coming up for re-assessment of pension in which entitlement is changed from "attributable" to "aggravated" is very small. On the figures for the last six months, during which period some 300,000 men were re-examined, the percentage is something less than 1 per cent. I would also point out that in a considerable number of cases a previous decision of aggravation is changed, in the man's favour to one of attributability. No change of entitlement is made unless after the fullest medical consideration it is determined that the original decision was erroneous; and in every case the man is notified of his right of appeal against the decision of the independent pensions appeal tribunal.

Village Settlements for Tuberculous Soldiers.

Mr. DAVID GRENFELL asked the Minister of Pensions what progress had been made in the erection of village settlements for tuberculous ex-Service men and their families.—Major TRYON replied: The general question of village settlements for tuberculosis, like the allied question of training, is primarily for the Ministry of Health. I am informed that some additional accommodation has been provided at the settlements at Papworth and Preston Hall, which, together, now have accommodation for about 100 families. In view, however, of the fact that the settlements which have at present been started by voluntary enterprise must still be regarded as in the experimental stage, and of the uncertainty as to the men's willingness generally to live permanently in such settlements, I understand that the late Government decided that they would not, under present financial circumstances, be justified in incurring large expenditure in the provision and maintenance of village settlements by the State. In the meantime, the existing experiments in this direction are being watched sympathetically.

MONDAY, DEC. 4TH.

Ex-Service Men as Pauper Lunatics.

Replying to a number of questions with regard to mentally afflicted ex-Service men transferred from the Ministry of Pensions to the Poor-law guardians, Major TRYON (Minister of Pensions) said: I may say that although the review of these cases to which I referred in the debate on Nov. 29th is not yet completed, the results so far to hand indicate that the percentage of these men who had service overseas is less than six. It is not practicable at the present date to give detailed information as to the membership of the medical boards who examined men on enlistment. It will be remembered that in the earlier stages of the war men were examined on enlistment by a single civil practitioner.

Dependents of Blind Workers.

Mr. GROVES asked the Minister of Labour, as representing the Ministry of Health, whether he would reconsider the position of dependents of blind workers employed or proposed to be employed in the various workshops established or about to be established under the Blind Persons Act, 1920; and would he reconsider the proposal that dependents of blind workers should become a charge upon the guardians and advise the various councils to accept the responsibility for their maintenance, with Government assistance, thus removing the taint of pauperism.—Major BOYD-CARPENTER replied: I am not aware of any such proposal as is indicated in the question. I may add that it is the policy of the Ministry of Health to secure suitable provision for as many blind persons as possible outside the provisions of the Poor-law.

Unvaccinated Children in Stepney.

Mr. WILLIAM THORNE asked the Minister of Labour, as representing the Ministry of Health, how many unvaccinated children under 12 years of age he estimated as living in Stepney; and how many of these had suffered from small-pox since one child developed the disease in August last.—Major BOYD-CARPENTER replied: As regards the first part of the question, my right hon. friend would refer the hon. Member to the reply given to the hon. Member for Dundee on Nov. 30th. As regards the second part, no child under 12 years of age has been notified as suffering from small-pox in Stepney since August last.

Education of Deaf, Dumb, and Epileptic Children.

Mr. GROVES asked the President to the Board of Education if he was aware that in August of this year a special circular was issued from the Ministry restricting expenditure upon services connected with deaf, dumb, and epileptic children and whether, in view of the obvious hardship to such boroughs as West Ham, which would be compelled to shoulder the burden if the Government would not, he would now take steps to withdraw the Order and arrange that the fullest possible facilities be afforded all such unfortunate children.—Mr. WOOD replied: Circular 1245, issued in January, 1922, conveyed a warning that restrictions might have to be imposed during 1922–23 on expenditure on special schools; in Circular 1269, however, issued on July 5th, 1922, the Board intimated that existing schools for blind and deaf children could be used to the full extent of their accommodation, and that no restrictions need be placed on the number of children sent to these schools by individual authorities. The same arrangement applies to schools for crippled children, to open-air schools, and to schools for mentally defective and epileptic children.

The Safeguarding of Industries Act.

Sir J. SIMON moved an amendment to the Address regretting that no mention was made in the Speech from the

Throne of the repeal of the Safeguarding of Industries Act and of other protective measures which were raising prices, hampering trade, and limiting employment. He said he had been inundated with letters pointing out that instruments needed for the purpose of science and for the purpose of attending to the sick and in the course of dental surgery were being taxed very substantial sums under the Act.

Sir P. LLOYD-GREAME (President of the Board of Trade), replying to the debate, said that the development in scientific instrument manufacture was so good that scientific institutions in France, Belgium, and Italy now came to this country to buy scientific instruments rather than buy them in the cheap markets abroad. He had to tax the imported article in order to build up the British industry.

After considerable discussion the House divided and the amendment was defeated by 269 votes to 207—Government majority 62.

TUESDAY, DEC. 5TH.

Factory Surgeons and Compensation Cases.

Mr. ROBERT YOUNG asked the Secretary of State for the Home Department whether, to ensure confidence in a doctor who acted as certifying factory surgeon, he would take steps to prevent such a doctor also acting in the capacity of compensation doctor for firms in the same area and at the same time as he was fulfilling the first-named duty.—Mr. BRIDGEMAN replied: It would not be possible to lay down any general rule on the subject, because in industrial districts it is often difficult to find a well-qualified medical man who does not hold some appointment in connexion with employers or associations of workpeople. The consideration, however, is borne in mind in making appointments, and the department is always prepared to inquire into any case of grievance that may be brought to its notice. I may add that an appeal lies from decisions of a certifying surgeon under the Workmen's Compensation Act to the medical referee appointed under that Act.

Scotland and the Blind Persons Act.

Mr. WHEATLEY asked the First Commissioner of Works, as representing the Secretary for Scotland, the number of competent local authorities in Scotland who are giving effect to the provisions of the Blind Persons Act, 1920, and the number who had failed to do so; whether, in view of the fact that the bulk of the blind people working in institutions for the blind were members of the National League of the Blind, he would take the necessary steps to give this league representation on the Advisory Committee on the Welfare of the Blind; and would he see that in the appointment of home teachers for the blind preference was given to competent blind persons.—Sir JOHN BAIRD replied: The number of local authorities in Scotland whose schemes, prepared and submitted under Subsection 1 of Section 2 of the Act have been approved by the Scottish Board of Health is 54; schemes are being prepared for submission to the Board by eight authorities, and the remaining four authorities are considering the question of preparing schemes. The National League of the Blind is already represented by two nominees on the Scottish Advisory Committee for the Welfare of the Blind. Where the circumstances are suitable for their employment preference will be given, in the appointment of home teachers of the blind, to competent blind persons. Several appointments of this nature have recently been given in Scotland to blind persons.

New Light Metal Limbs.

Major COHEN asked the Minister of Pensions how many of the new light metal limbs had been issued to ex-Service men and how many had been applied for; and whether there was a waiting list.—Major TRYON replied: The number of light metal limbs supplied up to Oct. 31st last was 2227. An additional 835 are under construction and when these are completed it is expected that the present demand will have been met.

Institutional Treatment of Tuberculosis.

Sir WILFRID SUGDEN asked the Minister of Labour, as representing the Ministry of Health, the present institutional accommodation obtaining in Lancashire for tuberculosis cases both in their earlier stages and later; and when he hoped to be able to deal completely with this grave problem in this country.—Major BOYD-CARPENTER replied: The county council are the authority primarily responsible for the provision of institutional treatment for tuberculosis in Lancashire, and I am informed that the number of beds at present provided by the county council is 688, of which 210 are for early pulmonary cases, 362 for intermediate and advanced pulmonary cases, and 116 for non-pulmonary cases; although certain proposals of the council for providing further accommodation have been suspended on account of the present financial stringency, the existing facilities appear to be yielding good results. The tuberculosis death-rate for 1921 was 0·95 per 1000 population, which is the lowest ever recorded in the county.

Medical Diary.

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Monday, Dec. 11th.

WAR: at 5 P.M.
Paper:
Colonel R. C. Campbell (Inspector of Physical Training to the Army): Physical Training in the Army.
To be followed by a discussion.

Tuesday, Dec. 12th.

PSYCHIATRY: at 8.30 P.M.
Paper:
Dr. Mary Bell: Use and Abuse of the Relationship between Doctor and Patient in the Practice of Psychotherapy.

Wednesday, Dec 13th.

SOCIAL EVENING.

Fellows, Members of Sections, Associates, and their friends will be received by the President, Sir William Hale-White, and Lady Hale-White at 8 P.M. (instead of 8.30 P.M. as previously announced).
Messrs. Marconi, through the Electric Light Insurance and Maintenance Company, the Society's electricians, have arranged to lend the Society their apparatus for providing a Wireless Concert in the Robert Barnes Hall between 8.20 and 9 P.M.
Dr. Arnold Chaplin will deliver a short lecture at 9 P.M. on Engraved Portraits of Medical Men, with illustrations from the collection belonging to the Society.
The Library will be open and various objects of interest will be exhibited. Music, light refreshments, and smoking.

Thursday, Dec. 14th.

NEUROLOGY: at 8.30 P.M.
Paper:
Dr. W. J. Adie: Dystrophia Myotonica (Myotonia Atrophica) an Heredo-Familial Disease with Cataract.
OPHTHALMOLOGY:
Members of this Section are cordially invited to attend the above meeting.

Friday, Dec. 15th.

ELECTRO-THERAPEUTICS: at 8.30 P.M.
Papers:
Dr. Gilbert Scott: Opaque Meal Examination.
Dr. Stanley Melville: Cases of Pulmonary Tuberculosis Revealed by X Rays but without Physical Signs.
MEDICINE: at 5 P.M.
Paper:
Dr. T. G. Longstaff: Some Experiences with the Everest Expedition.
To be followed by a discussion on Medical Aspects of Life at High Altitudes to which Mr. J. Barcroft, Commander Martin Flack, Prof. J. C. Meakins, Mr. T. H. Somervell, and Dr. Malcolm L. Hepburn have promised to contribute.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish Square, W. 1.
MONDAY, Dec. 11th.—8.30 P.M., Discussion on the Clinical, Pathological, and Radiological Aspects of Infections of the Teeth and Gums. To be introduced by Sir William Willcox, followed by Mr. Maxwell Stephens, Prof. McIntosh, Dr. J. H. Woodrolfe, Dr. Geoffrey Evans, Dr. Watson-Williams, Mr. W. R. Ackland, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.
THURSDAY, Dec. 14th.—5 P.M., Mr. Walter G. Spencer: Vesalius and His Delineation of the Framework of the Human Body (Thomas Vicary Lecture).

FELLOWSHIP OF MEDICINE POST-GRADUATE LECTURES, 1, Wimpole-street, W.
TUESDAY, Dec. 12th.—8.30 P.M., Prof. W. S. Lazarus-Barlow: What May We Expect from the Radiation Treatment of Cancer?

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.
MONDAY, Dec. 11th.—10.30 A.M., Mr. Maingot: Surgical Ward Cases. 12.15 P.M., Dr. Burnford: Pathological Demonstration. 4.30 P.M., Mr. Dudley Buxton: Dental Emergencies from the General Practitioner's Point of View.
TUESDAY.—10 A.M., Dr. Paterson: Demonstration of Medical Cases. 12 noon, Mr. Sinclair: Surgical Diseases of Abdomen. 4.30 P.M., Mr. Page: Spinal Analgesia.
WEDNESDAY.—10 A.M., Dr. Saunders: Medical Diseases of Children. 12 noon, Mr. Simmonds: Demonstration of Fractures. 4.30 P.M., Mr. Donald Armour: Surgery of the Pancreas.
THURSDAY.—10 A.M., Dr. Grainger Stewart: Neurological Department. 12 noon, Dr. Scott Pinchin: Disease of the Heart. 4.30 P.M., Mr. MacDonald: Urinary Surgery.

FRIDAY.—11 A.M., Dr. McDougal: Electrical Department. 12.15 P.M., Dr. Burnford: Applied Pathology. 4.30 P.M., Dr. Cole: The Medico-Legal Aspects of Insanity.
SATURDAY.—10 A.M., Dr. Saunders: Medical Diseases of Children. Mr. Simmonds: Orthopædics. 10.30 A.M., Mr. Maingot: Surgical Pathology.
Daily, 10 A.M. to 6 P.M., Saturdays, 10 A.M. to 1 P.M.: In-patients, Out-patients, Operations, Special Departments.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James' Hospital, Ouseley-road, Balham.
WEDNESDAY, Dec. 13th.—4 P.M., Mr. D. Morrow: The Interpretation of X Ray Negatives.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.
MONDAY, Dec. 11th.—3.30 P.M., Dr. A. J. Whiting: Sinus Arrhythmia and Extra-systole.
TUESDAY.—4.30 P.M., Mr. C. H. Hayton: Foreign Bodies in the Air-Passages and Œsophagus.
WEDNESDAY.—5 P.M., Dr. Provis and Mr. Benians: Venereal Department.
THURSDAY.—3.30 P.M., Mr. W. E. Tanner: Surgery of the Heart and Pericardium.
Daily: Operations, Clinics in various departments, &c.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.
THURSDAY, Dec. 14th.—4 P.M., Mr. Doyne: The Myopic Child.

THE NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland-street, London, W. 1.
MONDAY, Dec. 11th.—5.30 P.M., Dr. R. O. Moon: Angina Pectoris.
FRIDAY.—4 P.M., Clinical Demonstration—Dr. J. Strickland Goodall: Auricular Fibrillation.
Daily 10 A.M. and 2 P.M.: Out-patients, Ward Rounds, &c.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE CLINIC.
TUESDAY, Dec. 12th.—4.15 P.M., Dr. E. B. Leech: Hypnotics.

MANCHESTER FRENCH HOSPITAL AND HOSPITAL FOR WOMEN, 24, Acomb-street, Whitworth Park.
THURSDAY, Dec. 14th.—4.30 P.M., Dr. N. C. Haring: How to Examine the Nose and Throat: Nasal Disease and Obstruction.

ANCOATS HOSPITAL POST-GRADUATE LECTURES.
THURSDAY, Dec. 14th.—4.30 P.M., Dr. William Stirling: Cataract.

UNIVERSITY OF SHEFFIELD—FACULTY OF MEDICINE Post-Graduate Lectures and Demonstrations.
TUESDAY, Dec. 12th.—3 P.M. (at the Royal Infirmary) Mr. Pooley: Intoxications and Infections of the Eye, Autogenous and Otherwise. 4 P.M.: Mr. Cuff: Clinical Surgery.
FRIDAY.—3 P.M. (at the Royal Hospital) Mr. Garrick Wilson: Demonstration of Cases. 4 P.M., Prof. Hall: The Parkinsonian Syndrome.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell-square, W.C.
WEDNESDAY, Dec. 13th.—4 P.M., Dr. C. W. Saleeby: Sunlight and Childhood.

Appointments.

ABEL, A. L., M.S. Lond., F.R.C.S. Eng., has been appointed Honorary Surgeon to Out-patients at the London Lock Hospital, Dean-street, W.
APPLEYARD, W., M.B., B.S. Lond., F.R.C.S. Eng., Honorary Acting Consulting Laryngologist to the Royal Infirmary, Bradford.
BROWN, W., M.D. Oxf., Honorary Consulting Psychologist, Bethlem Royal Hospital.
FULTON, T. F. S., M.B., B.Ch., B.A.O., D.P.H., School Medical Officer, Belfast.
KAMENEFF, V., M.R.C.S., L.R.C.P. Lond., Second Resident Medical Officer at the French Hospital.
WALLACE, W. H., M.B., Ch.B. Glasg., Deputy Medical Superintendent at Wingrove Hospital, Newcastle-on-Tyne.
WILLIS, F. E. S., M.D. Lond., M.R.C.P. Lond., Physician to Out-patients, Hampstead General and North-West London Hospital.

Manchester Royal Infirmary: WILLIAMSON, R., B.Sc., M.B., Ch.B., Resident Medical Officer: WARBURTON, G. B., F.R.C.S. Eng., Assistant Surgical Officer, Central Branch: KLETZ, N., M.B. Manch., M.R.C.P. Lond., Second Medical Registrar: CLOUGH, E. W., M.B., Ch.B. Manch., House Physician.

Vacancies.

For further information refer to the advertisement columns.

Birmingham and Midland Eye Hospital.—Res. S.O. £200.
Bradford Children's Hospital.—H.S. £150.
Brighton, Royal Sussex County Hospital.—H.S. £150.
Bristol General Hospital.—Hon. Clin. Assts.
Cairo School of Medicine, Egypt.—Radiologist, &c. L.E.480.
Cambridge, Addenbrooke's Hospital.—H.S. £130.
Cancer Hospital, Fulham-road, S.W.—H.S. £150. Also Surg. Reg.
Cardiff Union.—Asst. M.O. £300.
Central London Throat, Nose, and Ear Hospital, Gray's Inn-road, W.C.—Res. H.S. £75.
Ceylon Medical College.—Professor of Physiology and Registrar. £800.
Dewsbury and District General Infirmary.—H.S. £200.
Dreadnought Hospital, Greenwich.—S. for Throat, Nose, and Ear Dept.
Durban Suburbs, Union of South Africa.—M.O. £800.
Ealing Borough.—Asst. M.O.H. £550.
Exeter, Royal Devon and Exeter Hospital.—M.O. for Venereal Clinic. £400.
Haifa, Palestine, Mission Hospital.—Med. Supt.
Hindley Urban District Council.—M.O.H. and School M.O. £700.
Huddersfield Royal Infirmary.—Jun. H.S. £200.
Hull Tuberculosis Sanatorium, Cottingham.—Res. Tub. O. £550.
Kingston Union, Kingston-on-Thames.—Sec. Asst. Res. M.O. £300.
Leeds General Infirmary.—Res. Orthopædic O. £150.
Lincoln County Hospital.—Jun. H.S. £150.
Loughborough and District General Hospital and Dispensary.—Res. H.S. £200.
Manchester, Salford Royal Hospital.—Res. S.O. £250.
Margaret Street Hospital for Consumption, 26, Margaret-street, W.—Hon. Anæsth.
Newcastle-on-Tyne, Ashington Coal Co.—S. £1000.
Newcastle-upon-Tyne, Hospital for Sick Children.—Hon. S. to Throat and Ear Dept.
Newcastle-upon-Tyne, University of Durham College of Medicine. Jun. Demonstrator of Anatomy. £350.
Norwich, Norfolk and Norwich Hospital.—H.S. £150.
Oxford, Radcliffe Infirmary and County Hospital.—Cas. H.S. and Res. Accoucheur. Each £200.
Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.—Dist. Res. M.O. £80.
Royal National Orthopædic Hospital, 234, Great Portland-street, W.—Two Res. H.S.'s. £150.
Royal Waterloo Hospital for Children and Women, Waterloo-road, S.E.—Hon. S. to Ear, Nose, and Throat Dept. Hon. P. to Out-patients. Also H.P. £100. Non-Res. Cas. O. £150.
St. George's Hospital, S.W.—Res. Anæsth. £100. H.P. £50.
St. Pancras School for Mothers, Queen's-crescent, N.W.—M.O. 1½ guineas per consultation.
Salisbury General Infirmary.—Asst. H.S. £120.
Straits Settlements and Malay States.—M.O.'s. £616.
West London Hospital, Hammersmith-road, W.—H.P., H.S., Aural H.S., and Res. Cas. O. Each £100.
Westminster Hospital, Broad Sanctuary, S.W.—Asst. H.P. and Asst. H.S. Each £52.
Wigan, Royal Albert Edward Infirmary.—Jun. H.S. £175.

Births, Marriages, and Deaths.

BIRTHS.

RAHILLY.—On Nov. 26th, at Mhow, Central India, the wife of Major J. M. Rahilly, R.A.M.C., of a son.

MARRIAGES.

PARKER—BURDETT.—On Nov. 29th, at St. Martin-in-the-Fields, Albert Thomas Parker, L.D.S. Eng., to Alice May Burdett, of Sidcup, Kent.

DEATHS.

BOWES.—On Nov. 27th, at Earlswood, Surrey, William Henry Bowes, M.D., B.S. Lond., F.R.C.S., aged 61 years.
FLEMING.—On 30th ult., at a Nursing Home, Dr. Robert Hamilton Fleming, of 19, Newton-street, Charing Cross, Glasgow.
LONNON.—On Nov. 30th, at Denmark-hill, Frederick Lonnon, M.R.C.S., L.R.C.P., L.D.S., aged 64 years.
LYNAM.—On Dec. 1st, at Bardwell-road, Oxford, Robert Garner Lynam, M.B. Lond., M.A. Oxf., aged 63 years.
MOORE.—On Thursday, Nov. 30th, at Hancox, Battle, Sussex, Sir Norman Moore, Bt., LL.D., M.D., Hon. Fellow of St. Katharine's College, Cambridge, aged 75 years.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

WE regret to announce the death of Dr. R. J. Ryle, formerly surgeon to the Sussex Eye Hospital, and later medical officer of Bradfield College.

THE King has sanctioned the appointment of Sir Maurice Abbot Anderson, M.B. Durh., M.V.O., as a Knight of Grace, and of George Arthur Cardew, M.R.C.S., O.B.E., as an Esquire in the Order of the Hospital of St. John of Jerusalem in England.

Notes, Short Comments, and Answers to Correspondents.

THE SULPHATED WATERS OF ESSEX
(INCLUDING THE "VANGE" WATER).

BY JOHN C. THRESH, M.D., D.Sc., &c.,
CONSULTING MEDICAL OFFICER OF HEALTH, ESSEX COUNTY COUNCIL.

IN my work on Essex water-supplies and in the geological memoir on the county prepared by Mr. W. Whitaker, F.R.S., and myself, so much has been said about the different types of water found in the county that an apology seems needed for any further reference thereto. This is provided by the London Press, which has been booming as a new discovery the water yielded by a shallow well on the Vange Corner Estate in the parishes of Vange and Pitsea, some 11 miles west of Southend and four miles from the northern bank of the Thames. In consequence a considerable demand has arisen for the water, and, unfortunately, other Essex waters of a somewhat similar type, but containing much less sulphates, are being bottled and sold through chemists as "Vange" water.

Waters containing considerable amounts of sulphates are very common in Essex, and are derived almost exclusively from the London clay, either from near the surface or from near the base; naturally in both cases in somewhat limited amounts. Where a sulphated water occurs near the surface it is usual to find the clay more or less intercalated with crystals of calcium sulphate, and clay of this character seems to occur in patches, but to be more frequent in some localities than in others. The same appears to apply to the clay at its base. Two wells may be sunk in the same parish, yet the waters be markedly different. A single example will suffice. In the parish of Althorne are two wells about a mile apart. In both the water is derived from the basement beds of the London clay which here is about 300 feet thick. These waters were both sulphated, but differed considerably, as the following analyses show:—

	Parts per 100,000.	
	No. 1 well.	No. 2 well.
Calcium carbonate	23·0	29·3
Calcium sulphate	92·0	7·6
Magnesium sulphate	120·6	42·5
Sodium sulphate	0·0	59·2
Sodium chloride	90·1	49·3
Silica, &c.	2·3	2·1
Total solids	328·0	190·0

Within a mile the same stratum yields a water which contains no trace of calcium or magnesium sulphates and comparatively small quantities of sodium sulphate. Where a shallow well in the London clay yields any water it invariably contains sulphates of calcium and magnesium but not always sulphate of sodium. In past times certain of these wells had acquired a reputation, notably at South Weald, Upminster, and Hockley. The following analyses of these waters are taken from "The Mineral Waters and Medicinal Springs of Essex," by Miller Christy and May Thresh.

	Parts per 100,000.		
	South Weald.	Upminster.	Hockley.
Calcium carbonate	17·0	30·8	39·7
Calcium sulphate	59·2	89·8	95·9
Magnesium sulphate	104·7	129·4	197·3
Sodium sulphate	38·0	13·9	0·0
Sodium chloride	10·9	15·2	95·0
Silica, water of hydration, &c.	19·2	19·9	2·5
Total solids	249·0	299·0	430·4*

* Water of hydration removed by drying at +200° C.

Hockley Spa.

At Hockley the large pump-room erected in or about 1843 still exists, as does also the hotel erected a few years later, but until the boom caused by the Vange water the Spa was almost entirely neglected. The sulphates in the Hockley water exceeded the amount found in any other Essex water, so far as I was aware, until the Vange Well was brought to my notice. When the marvellous accounts of the effects of the Vange water reached me, I immediately visited Vange and found that the well was situated in Pitsea parish, just over the Vange border, upon the Vange Corner Estate. The ground slopes from the main road upwards to the north, and just beyond the well the slope increases. The well is between the 50 feet and 100 feet contour lines, and there appears to be no possible source of pollution near. Over the well a large army hut has been erected, and the water is bottled here and also supplied on draught. I observed another well being sunk a little distance away, and I was informed that water was being found at about the same depth as in the existing well, 16 feet. The soil removed was clay throughout, but the part then being exposed contained masses of crystals of more than one kind. These contain sulphates of calcium, magnesium, and sodium, but special samples are being collected for me for analysis when time permits. I have not seen any such crystals elsewhere, and suspect they consist of selenite ($CaSO_4$) with kieserite ($MgSO_4.H_2O$), or a double sulphate of magnesium with potassium and sodium, or possibly glauberite, a calcium sodium sulphate. The well was sunk some 20 years ago by a Mr. Cash and is known as Farmer Cash's well, and that the water was reputed to possess medicinal properties is proved by the fact that for many years it has been on sale in bottles. The true Vange water from Farmer Cash's well is undoubtedly a strongly sulphated water, and it is much more concentrated than the other Essex waters now being sold as Vange water. The analysis of the water contained in a sealed bottle purchased by me at the well, and of a bottle purchased from a local chemist's, show the difference between them.

	Parts per 100,000.	
	Farmer Cash's well.	"Vange" water from Hockley.
Calcium carbonate	46·5	46·0
Calcium sulphate	88·7	57·4
Magnesium sulphate	495·0	144·0
Potassium sulphate	38·4	0·0
Sodium sulphate	144·8	0·0
Sodium chloride	60·3	61·0
Water of hydration, silica, &c.	86·3	36·6
Total solids	960·0	345·0

The second sample is apparently Hockley water. It contains no sulphates of the alkalies and less than one-third of the magnesium sulphate contained in the real Vange water. It is obvious that as a sulphated water the Vange water is far superior to the substitute. It seems quite possible that the real Vange water, taken under medical guidance, may prove of value; certainly the water is worthy the consideration of the profession. But it is obvious that care will have to be taken to ensure the supply being from the proper source. The present supply is not unlimited—some 200 to 300 gallons per diem—but from the character of the clay around it is probable that more can be obtained.

PUBLIC HEALTH IN NEW ZEALAND.*

THE Director-General of Public Health in New Zealand, Dr. T. H. A. Valintine, commences his report for the year ending March 31st, 1921, by congratulating the department on the possession of a thoroughly workable Health Act, which may be said to be "the best Act of its kind in the English language," largely due to the energy and devotion of Dr. R. H. Makgill. On the other hand, the department has not been able wholly to fulfil its obligations to local authorities, as regards appointment of sanitary inspectors; and "the past year on the whole has been a disappointing one, especially as regards notifiable diseases." The estimated mean population of New Zealand in 1920 was (excluding Maoris) 1,179,619: the birth-rate (25·36 per 1000) was higher than in the two years preceding (23·44 and 21·54) but lower than in any other year since 1911, except in 1915, when it had been 25·33. The health officer, however, considers this to be "a satisfactory recovery"; the behaviour of the birth-rate is the result of war and the influenza epidemic. The general (crude) death-rate was 10·27, higher than in any year since 1910, except 1918, when it had been 14·84 per 1000. The most frequent causes of death were organic heart disease (1703), diseases of the nervous system and special senses (1153), cancer (1029), and old age (1017).

Infectious Diseases.

In regard to infectious disease, it is stated that there were widespread epidemics of influenza, measles, and whooping-cough. For influenza there were 29,928 notifications during the first six months of the year, 10,013 of these being in May; "fortunately the disease did not exhibit any marked tendency to malignancy. An attempt was made to limit its spread by means of notification, isolation, &c., but this proved useless. As a result notification of simple influenza was discontinued in June, and the only types of the disease over which administrative control was exercised were the pneumonic, septicæmic, and fulminant varieties." The prevalence of these forms rapidly diminished towards the end of the year, the cases

* Wellington: Government Printer. 1921.

from July to September numbering 358, and from October to December 112. The total deaths amounted to 480. There was unfortunately a marked increase in puerperal septicæmia, the notifications and deaths being in a ratio of 4·14 and 2·24 per 1000 live births, as compared with 3·23 and 2·12 in 1919, numerous outbreaks occurring in maternity hospitals; erysipelas cases also increased from 73 to 156. There were only 95 notifications of small-pox, 60 and 30 occurring in Otago and Southland districts respectively. The efficiency of vaccination was shown in the most striking manner: of the Otago cases "only 18 had been vaccinated at any time in their lives, and in not one of these cases, owing to lapse of time, could it be regarded that any protection was present. Only two contacts who were vaccinated developed small-pox, and their history suggests that they were incubating the disease at the time of the procedure." The disease was mild and there were no fatalities. Special arrangements have been in operation since early in 1919 for carrying on the treatment of men who had contracted venereal disease on active service, which was regarded as a matter of prime importance; clinics were established in four centres, under specially experienced medical officers, at which 953 men and 192 women were treated.

Under the Sale of Food and Drugs Act 2596 samples of milk were examined, of which 160 were not up to the standard; in 81 cases prosecution was recommended. In concluding this division of the report, Dr. M. H. Watt, Director of Public Hygiene, states that two new health districts have been formed during the year, and two additional bacteriological laboratories established; the department has also undertaken the storage and distribution of biological products, which makes for both economy and efficiency.

Coördination of Hospitals.

In Part III. of the report, Dr. D. S. Wylie, Director of the Division of Hospitals, emphasises the importance of the "better coördination of hospitals in order that more efficient treatment may be secured for certain classes of cases, both medical and surgical." With the increase of specialisation "no single person can any longer hope to attain equal skill in the use of the many instruments and procedures of diagnosis; and the same may be said of the complexity of modern therapeutic technique. . . . Two matters must be arranged: . . . . base hospitals must be enabled to develop and maintain their special departments at the highest possible pitch of perfection; and transference to base hospitals must be easily and expeditiously carried out." Dr. Wylie considers that there is room in many New Zealand hospitals for the employment of what American authorities term a "dietitian." "The introduction of exact knowledge and scientific methods into many of our hospital kitchens will certainly minimise waste, increase variety, and conduce to economy." With regard to the supply of nurses, there is no actual scarcity in the Dominion at present, although the department is not able to fill all the demands from country districts: of 241 candidates who presented themselves for examination 212 were successful and are now on the State register.

School Hygiene.

Part V. deals with school hygiene. The School Medical Service was transferred from the control of the Education Department to that of the Department of Public Health during the year, but the physical training branch remains under the former authority; this is allowed to be necessary, but "there should be a generous coöperation between the school medical and physical training staffs." The results of the routine medical inspection of 1356 schools and 78,980 children showed that 79 per cent. had physical or mental defect of some kind: 54·6 per cent. suffered from "dental decay"—i.e., "carious permanent teeth, or more than three carious temporary teeth. . . . The number of children with perfect sets of teeth is probably not more than 2 or 3 per cent." (Here it may be noted that out of 206,938 London children examined in 1918, in the age groups, *not* specially brought forward as needing treatment, 44·7 per cent. had all teeth sound, and only 27·9 per cent. had four or more teeth decayed.) Defective vision was found in 4 per cent. of those tested, but this figure is stated to be "probably below that of the actual defect existing, as the test was applied by some officers only when defect was suspected." Adenoids were found in 2·8, enlarged tonsils in 13·4, and both conditions in 2·8 per cent. Many cases, by well-regulated breathing exercises and physical drill, improve without operation. Dr. E. H. Wilkins, Director of the Division of School Hygiene, considers that the health of the school-children "most certainly must be regarded as very much below what it ought to be in a country having such advantages in climate, prosperity, and general welfare." He instances the prevalence of dental disease, chest deformity (rickets), anæmia, adenoids, and enlarged tonsils, although the average height and weight in relation to age is higher in New Zealand than in England. Home conditions are often faulty, and many children are overworked out of school hours. Educative propaganda among parents and medical officers and school committees have had good results. Lastly, the health of the natives in North Island and the general sanitary conditions show further improvement, due to "strict supervision, administered with firmness, yet kindness."

ARITHMETICAL PRODIGIES.

To the Editor of THE LANCET.

SIR,—The discussion in your pages on the subject of calculating prodigies tempts me to place on record a case coming within my personal experience, which exhibits some, at least, of the peculiarities of this most interesting class.

The patient is a congenital imbecile, the son of a distinguished journalist who died some years ago. Till he was 23 years of age the patient was kept at home under the special care of a private tutor. He had always been subject to fits of ungovernable temper, and as adolescence advanced it became increasingly obvious that he could only be managed with safety to himself and to others, in an institution. Accordingly, in 1885 he was admitted to the Royal Hospital at Morningside, then under the care of Sir Thomas Clouston. The patient's mental faculties in general have never developed beyond a very childish stage. It is unfortunately impossible to assess his mental age accurately by any recognised method such as the Binet-Simon scale, owing to the fact that the patient is practically blind. His other special senses are in every respect normal, and in certain directions compensate for the deprivation of sight. Common sensation, too, is acute and well coördinated—he recognises many of his acquaintances by merely feeling their hands or face, or by tracing the outline of their body with his fingers. On the other hand, despite all the advantages of specialised tuition, he never made any progress in the ordinary school curriculum. He never learned to read the Braille type; he cannot write; he does not understand what spelling means. He does, however, pretend to write, and in imitation of his father often spends a whole winter evening writing leading articles for the public press. The results are always disappointing to everyone except himself, consisting as they do of formless scrawl upon scrawl, with more resemblance to a child's drawing of a bird's nest than to anything else. He can never tell what the "leaders" deal with: they are merely "leaders."

Another of his hobbies is music. Threaten to deprive him of the privilege of attending a concert or a dance and he is plunged into the depths of despair; tell him that a special ball is being arranged in honour of his birthday and his mood is ebullient. Like many others who cannot justly be classed as imbeciles, his musical taste aspires to nothing higher than a quadrille or a merry set of lancers. While it is in progress he sits swaying backwards and forwards keeping time to the music, his face radiant, and his hands rubbing one another appreciatively. He himself performs on the piano in a purely mechanical fashion. Two of his pieces are childish jingles which he learned in his youth, while the third is a reel which he has been listening to for over thirty years at Morningside dances and which he is still "practising." He takes an inordinate pride in his musical attainments, and till a few years ago claimed the right to play his two pieces during the interval in the weekly dances.

His self-control on the whole is good, but is liable to break down occasionally. Just as in his editorial essays and his musical efforts, so also in his bouts of temper he proclaims himself a creature of rote, following out a predetermined course of conduct to the bitter end. After a restless night he appears in the morning highly irritable and querulous. Most of the forenoon he sulks in the privacy of his own room, muttering unintelligibly to himself. By the middle of the afternoon he is excited and may be seen seated on a chair, swaying rhythmically backwards and forwards, rubbing his hands together and grinding his teeth. Then he begins to talk, quietly at first and working up by a gradual crescendo to a screech—always the same formula. The recital embraces two or three youthful conflicts with the paternal will, the story of Sir Thomas Clouston's professional visits to his home, and finally his own admission to Morningside. When the paroxysm is at its height, his face is flushed and he is almost convulsed with rage. It ends suddenly, however, without impairment of consciousness, and he is soon his old self. Apart from these paroxysms he is usually placid and well contented with himself. It flatters his self-conceit to be referred to as "the greatest rogue in Scotland"; he regards himself as a prime favourite with the ladies, and altogether extracts a good deal of simple pleasure out of his narrow lot. It is recorded that in his early youth he was subject to occasional fits—probably epileptic—but none have been noted since his admission to Morningside. It is just possible that his paroxysmal outbursts are in the nature of epileptic equivalents.

Coexistent with this serious degree of mental defect is a strange facility in certain limited directions. His memory in general is good, and for dates it can only be described as

phenomenal. He never forgets the date of any event coming within the scope of his personal experience. And this refers not only to events of major importance, but also to trifling incidents with which the average person would not wish to encumber his memory. For example, in the course of conversation mention is made of Mr. "A" who has been dead for several years. Immediately our patient gives the date of Mr. "A's" arrival at Craig House, the date when his last illness began, and the date of his death. From that he may pass to another patient associated in his mind with Mr. "A" and supply a similar list of details about him. He is a perfect compendium of curiously exact information about the numerous changes in the medical staff at Craig House—when B was promoted, when C was married, when D's first child was born. A curious example of this unerring accuracy is seen in the fact that the writer did not see the patient for a period of more than three years, and yet when the acquaintance was renewed the first greeting of the patient was to reel off correctly and without faltering the dates of a number of incidents in the writer's career. In the interval of three years it is safe to assume that the patient's memory for those particular events had not been exercised.

Equally striking is the ease with which he tells the day of the week on which a particular date fell. One day he was introduced to a colonial practitioner to whom he was anxious to display his skill. After a perfunctory handshake he asked: "What is your birthday?" and was told the 15th May. Immediately came the response, "Your birthday this year was on a Monday." He then inquired, "How old are you?" and was told 34. Without hesitation he remarked, "You were born on the 15th May, 1888; that was a Tuesday. You had a birthday on Tuesday in 1894, 1900, 1906, and 1917. You will not again have a birthday on a Monday till the year 1933, and after that in 1939, 1944," &c. Even if there may be an easy method of so combining days and dates, to answer practically instantaneously, where long intervals of time are involved and especially in passing from one century to another, is an achievement that few normal individuals are capable of. To find the day of the week for a given date within the same year involves a different process of calculation, but in this our patient is as proficient as in the other. His faculty exercises itself with equal readiness in either direction, prospective or retrospective. It matters little whether the events are recent or remote, his answers in each case are equally prompt and reliable.

The case, however, is unlike many of the others recorded in the literature of this subject in that he shows no particular ability in the matter of ordinary arithmetical manipulations. He adds and subtracts simple numbers with ease and is thoroughly familiar with the multiplication tables up to 12 times 12. That, however, sums up the whole of his arithmetical powers, apart from the special capacity already referred to. Even that small degree of scholastic proficiency is in advance of the stage of progress which he has reached in other directions, and is probably to some extent related to his lopsided development.

It is futile to question the patient as to how he reaches his conclusions. His invariable answer is, "It's done by leap year." Presumably he has a simple formula or formulæ applicable to such questions, but it is beyond him to demonstrate the process of application. The arresting fact is that, assuming such formulæ to exist, he should have mastered them so thoroughly as to be able to apply them, apparently automatically, and yet have failed to show even average development in any but this narrowly circumscribed direction.

I am, Sir, yours faithfully,

WILLIAM MCALISTER, M.A., M.B., Ch.B. Edin.,
Assistant Physician, Royal Hospital at Morningside.

Nov. 27th, 1922.

THE REGISTER OF NURSES AND THE ELECTION OF THE GENERAL NURSING COUNCIL

UNDER the Nurses' Registration Act of 1919 provision was made for the registration of nurses for the sick, and a General Nursing Council was established, one of whose duties was the formation of the Register of Nurses. Work on its preparation has been going on steadily since that time, and the Minister of Health has just given notice as required by Statute that the Register has now been compiled. The effect of this notice will be that after three months from Dec. 5th (the date of the notice) the unauthorised use of the title "registered nurse" will render a person liable to a fine not exceeding £10 for a first offence and £50 for any subsequent offence. The first Register is now being printed, and will be published by the General Nursing Council, 12, York Gate, London, N.W. 1.

The forthcoming election of the General Nursing Council brings the profession of nursing to a responsible stage in its history. The first Council was nominated by the Minister of Health in consultation with the various societies of nurses. This month the nurses whose names are actually on the Register are required to elect 16 registered nurses to serve upon the new Council for the next five years. Of the nine remaining members of the Council three are appointed by the Privy Council, three by the Board of Education, and three by the Ministry of Health. The constructive work of the first nominated Council has been arduous, and handicapped not a little by controversy. In electing the new Council nurses will do well to remember that they are not electing representatives of one association or another, and should cast their votes for those women best calculated to serve the interests of the trained nurses of the sick, regardless of their politics.

AN IMPOSTOR.

To the Editor of THE LANCET.

SIR,—A man giving the name of C. G. Ward, and representing that he is travelling for the National Benzol Company, Newcastle-on-Tyne, is calling upon doctors and fraudulently obtaining various sums of money from them by offering spirit for sale and asking for cash in advance. This man is wanted by the police for similar offences in different parts of the country. If any doctor on whom the man should call will detain him and immediately inform the police he will render the profession a service.

The following is a description of the man: Age 45, about 5 ft. 9 in., fresh complexion, grey eyes, clean shaven, bald, smart appearance, and usually carries an attaché case with all the usual motor literature and adverts.

I am, Sir, yours faithfully,
H. E. MCCREADY, M.D.

Kings Norton, Birmingham, Nov. 30th, 1922.

HEALTH RESORTS IN PORTUGAL.

"In reply to H.E.," writes *M.D.*, "much of the information he may require will be found in a volume on the Climate and Health Resorts of Portugal, written by Dr. D. G. Dalgado, of the Academy of Sciences, Lisbon, and published by H. K. Lewis at 10*s.* 6*d.* net. The book was strongly recommended in a review in THE LANCET [1] for its thoroughness, and also its idiomatic English."

SMITH'S PHYSICIANS' AND SURGEONS' VISITING LISTS.

THESE well-known publications, consisting of diary, almanac, and book of engagements, from the firm of Messrs. Hazell, Watson and Viney, Ld., Long Acre, London, W.C. 2, appear in good time for the New Year. Published in cloth boards, roan, or morocco with tuck pocket and pencil, they measure approximately 6¼ by 3¼ in. and are prefaced with much general information such as postal regulations, wages and income tables, expectation of life tables, suggested professional charges, lists of poisons and antidotes, table for calculating the period of utero-gestation, dosage according to the British Pharmacopœia, average weights and heights, and other matters on which the medical man may find it convenient to refresh his memory at any moment.

The greater part of the diaries consists of ruled pages for keeping a journal of visits, obstetric and vaccination engagements, accouchement accounts, lists of drugs and instruments wanted, things lent, and so forth. The prices of the diaries vary from 6*s.* 6*d.* to 12*s.* 6*d.* according to binding and ruling, and these excellently arranged books can be obtained for keeping records of from 25 to 200 patients. The convenient No. 2A edition for recording visits to 50 patients (with journal), which was discontinued, has been reinstated for 1923. Altogether excellent publications.

Erratum.—In an annotation entitled the Septic Tank as Vermicide, which appeared in THE LANCET of Oct. 14th (p. 821), the name of Dr. J. Borland McVail was incorrectly stated. We regret the error.

[1] THE LANCET, June 17th, 1914, p. 1822.

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